REFRACTION SYSTEMS

COMPANY	MODEL	ARTIFICIAL INTELLIGENCE FINAL RX	LM/AR SUBJ/UNAIDED COMPARISON	ADJUSTABLE CONVERGENCE FOR NEAR AT VARIABLE WORKING DISTANCE	AUTOMATIC INPUT OF VA	CHART LINKAGE	AUTOMATIC ALIGNMENT W/ PROJECTION SYSTEM	ADDITIONAL FEATURES
AIT Industries	Synergy Digital Refraction System	no	yes	yes	yes	yes	yes	Automatically adjusts to proper PD measurement based on information transmitted from eRK-10 Autorefractor. Manual adjustment also available through the control console. Features new Smart RK-11 Autorefractor.
Huvitz ((distributed by Coburn)	HDR-7000	no	yes	yes	yes	yes	yes	Features dual cross cylinder lens, automatic occlusion, automatic convergence, accurate rotary prism, illuminated vertex distance check window, global standard chart types, & user-friendly touch screen interface with jog dial & tact switches.
Marco	EPIC	yes	yes	yes	yes	yes	yes	Compact refraction system; has a footprint of 22 sq. ft.; reduces refraction time; delegation tool; split prism Jackson cross; integrates wavefront data into subjective refraction; adjustable motorized table, color touch screen that can be turned to patient for visual acuity education tool, can be networked into paperless EMR systems.
Marco	TRS-5100	yes	yes	yes	yes	yes	no (not needed)	Compact refraction system used in a tradtional lane; reduces refraction time; delegation tool; split prism Jackson cross; can be networked into paperless EMR systems.
Marco	TRS-3100	no	yes	yes	yes	yes	no (not needed)	Wireless & compact refraction system used in a traditional lane; reduces refraction time; can be networked into paperless EMR systems.
Reichert Technologies	Auto Phoroptor RS®	final Rx provided	yes	yes	yes	yes	yes	Compact design & ultra slim lens profile. Quiet operation & quick lens exchanges. Phoroptor eye height adjustment to align the patients' eyes horizontally. Automatic cross cylinder test modes. Connects with a wide range of lensmeters & autorefactors; Interfaces with EMR systems.
Righton	Remote Vision	no	yes	yes	no	yes	n/a	Cordless remote control for optimal flexibility; speedy lens changes; quiet operation; programmable — up to 3 programs; full complement of accessories.
Tomey	TRU-1000	yes	yes	yes	yes	yes	yes	Operated by one control keyboard & all settings can easily be performed by an electronic dial. Due to the colored keyboard, the operation is very intuitive.
Topcon Medical Systems	CV-5000S Refraction System	suggested final Rx provided	yes	yes	yes	yes	yes	Incorporates color-coded cylinder refinement aids with traditional Jackson cross or split prism; can be integrated w/Topcon autorefractors, autoprojectors, VisiChart and M&S Smart System as well as many popular EMR systems; automated patient positioning features with the EXAM-5000 desk system.

AUTOREFRACTORS

COMPANY	MODEL	ALIGNMENT SYSTEM	VISUAL ACUITY	GLARE TESTING	KERATOMETER	ADDITIONAL FEATURES
AIT Industries (manufactured by Grand Seiko)	WAM-5500 AUTOREFRACTOR/ KERATOMETER	joystick with automatic measurements	no	no	yes	Accommodation Measurement, Binocular Open-View, high speed measurement, data logging. New 6hz measurement speed. Optional WMT-1 Moving Target measurement system.
AIT Industries (manufactured by Grand Seiko)	WR-5100k AUTOREFRACTOR/ KERATOMETER	joystick with automatic measurements	no	no	yes	Accommodation Measurement, Binocular Open-View.
AIT Industries (manufactured by Viewlight)	SMART RK-11	joystick with automatic measurements and eye tracking	no	no	yes	Internal printer, 6.5 inch color LED, USB Interface, Motorized chinrest, Intuitive interface, High speed measuring, measures iris and pupil diameters, PD measurement.
Canon Healthcare Solutions Division	RK-F2 Full Auto Ref-Keratometer	full auto/auto/manual	no	no	yes	2.0 mm and 2.5 mm pupil size mode, IOL mode, retro-illumination mode, corneal periphery K readings; pupil size measurement, pupil distance measurement, LAN and RS-232C output, USB host, motorized omni-directional joystick, 5.7 inch tiltable multi-functional color LCD monitor, built-in printer, universal power supply, compact and lightweight.
Carl Zeiss Meditec	VISUREF 100 Autorefractor/Keratometer	joystick with automatic measurements	no	no	yes	Intuitive handling features let you conduct the most important measurements with one device, including contact lens base curve, pupil & iris diameter evaluations. Refraction measurements of patients with implanted IOLs are also possible. Additionally, the automatic fogging incorporates an infinity scene to reduce the effects of accommodation. 5 different operation modes. Motorized chinrest. Tiltable 6.4 inch TFT display. Quick-release brake. Additional port for external monitor.
Huvitz (distributed by Coburn)	HRK-8000A	joystick, auto alignment, & auto measurement, eye tracking	no	no	yes	Features Wavefront technology based on Hartmann-Shack, graphical display of refraction map, network capability, contact lens holder to measure the base curvature of contact lens, & Retro-Illumination mode to see abnormal crystalline lenses, cataracts & scratches of corneas.
Huvitz (distributed by Coburn)	HRK-7000A	joystick, auto alignment & auto measurement, eye tracking	no	no	yes	Features Wavefront technology based on Hartmann-Shack, graphical display of refraction map, network capability, contact lens holder to measure the base curvature of contact lens, & Retro-Illumination mode to see abnormal crystalline lenses, cataracts, & scratches of corneas.
Marco	ARK-1s Autorefractor autokeratometer/ visual acuity/glare testing	auto align, auto fogging & high speed measurements, joystick	yes	yes	yes	Eye tracking system, two pupil zone ring-imaging using SLD technology, confidence index, visual acuity, subjective sphere refinement, automatic pupil & corneal measurement, glare testing, low contrast, accommodation, retro-illumination, measurable minimum pupil diameter 2.0mm, adjustable LCD monitor, easy load paper, EMR compatible/interfaces with Marco auto lensmeters & digital refractors.
Marco	ARK-530A autorefractor/autokeratometer	auto align; auto fogging & high speed measurements; joystick	no	no	yes	Eye tracking system; SLD technolgy, confidence index, measurable minimum pupil diameter 2.0mm, adjustable LCD monitor, easy load paper, EMR compatible/interfaces with Marco auto lensmeters & digital refractors.
Marco	ARK-560A Autorefractor/ autokeratometer/visual acuity	auto align; auto fogging & high speed measurements; joystick	yes	no	yes	Eye tracking system, SLD technology, confidence index, visual acuity, subjective sphere refinement, measurable minimum pupil adjustable LCD monitor, easy load paper, EMR compatible/interfaces with Marco auto lensmeters & digital refractors.
Marco	OPD-Scan III	auto align; joystick; auto fogging	no	no	yes	Autorefractor; topographer; wavefront analyzer; OPD; internal OPD; pupillometer; retro illumination image; mesopic & photopic pupil displayed, asphericity; XP; Celeron M1.5 GHz Processor; interfaces with EPIC, TRS & XFRACTION; EM-ready through Marco Connect.
Marco	Palm ARK Handheld	handheld; infrared mire alignment	no	no	yes	Possesses features of tabletop ARKs; quick mode; supine mode; interfaces with EPIC & TRS.
Marco	M3 Autorefractor/autokeratometer/ non-contact tonometer	auto align; auto fogging & high speed measurments, joystick	no	no	yes	Non-contact tonometer with softer eye puff, eye tracking system, SLD technology, confidence index, measurable minimum pupil diameter 2.0mm, adjustable LCD monitor, easy load paper, EMR compatible/interfaces with Marco auto lensmeters & digital refractors.
M31, LLC	2WIN for vision	handheld; infrared mire alignment	no	no	no	The 2WIN handheld binocular vision analyzer measures both eyes simultaneously in about 5 seconds at 1 meter without patient cooperation. The 2WIN simultaneously evaluates refractive errors, gaze direction, ocular alignment, pupil diameter & pupil distance. The 2WIN allows refraction of infants & children from 2 months of age, seniors, impaired & non-cooperative patients, early detection & documentation of multiple amblyogenic factors and over-refraction of glasses or contact lenses.
OCULUS Inc.	PARK 1® Pachymeter/ Autorefractor/Keratometer	Auto-alignment (y direction), joystick w/automatic measurement	no	no	yes	Combines a noncontact pachymeter, autorefractor and keratometer into a slim, easy-to-use instrument. Automatic HWTW, pupil size and PD measurement, IOP correction based on the corneal thickness, built-in patient data management, integrated contact lens data-base for suggestion of soft contact lenses, quality specification for accuracy of measured values, motorized chin rest, Min. pupil size 2.5 mm, 5" color LCD monitor, thermal printer, 600 pachymetric points measured, USB connection, EMR ready. Dimensions 20" x 10.2" x 21.7"
Reichert Technologies	RK600 Autorefractor/ Keratometer	joystick w/automatic measurements	n/a	n/a	yes	Full-color LCD screen, icon-based operating system & built-in printer. 2.3-mm minimum pupil diameter, RS232C interface & video output terminal. Function initiates measurements automatically when alignment is achieved. Equipped w/an automatic power save turn off. Kerato-peripheral, IOL and PD measurements.
Righton	Retinomax 3 Hand Held Autorefractor	handheld – automatic measurement with correct alignment	no	no	no	Precise measurements; Super Quick mode for optimal pediatric measurements; 2.5-mm minimum pupil size, retroillumination to identify cataracts or irregularities in the optical system; melody function assists with small children.
Righton	Retinomax K-Plus 3 Hand Held Autorefractor	handheld – automatic measurement with correct alignment	no	no	yes	Precise measurements; Super Quick mode for optimal pediatric measurements; 2.5-mm minimum pupil size, retroillumination to identify cataracts or irregularities in the optical system; melody function assists with small children; peripheral keratometry measurements; selectable modes for optimal performance.
Righton	Speedy i	joystick with automatic measurement	no	no	no	Features accomodative micro fluctuation measurement, a large, 6.5-inch LCD screen, pupil diameter measurement, a wider range motorized chin rest movement, and an ultrafast test time — screening mode is 49 seconds per eye.
Righton	Speedy ik	joystick with automatic measurement	no	no	yes	Features accommodative micro fluctuation measurement, a large, 6.5-inch LCD screen, pupil diameter measurement, a wider range motorized chin rest movement, and an ultrafast test time — screening mode is 49 seconds per eye and residual k values.

AUTOREFRACTORS

COMPANY	MODEL	ALIGNMENT SYSTEM	VISUAL ACUITY	GLARE TESTING	KERATOMETER	ADDITIONAL FEATURES
Tomey USA	RC-5000 Autorefractor/Keratometer	fully automatic eye-tracking system	yes	no	yes	Fully automatic touch-screen operation; calculates pupillary distance; high-speed built-in printer; power chin rest; 0.3-second measurement time or less; provides cataract and IOL mode.
Tomey USA	RT-7000 Autorefractor/Keratometer	fully automatic eye-tracking system w/topo & dry eye software	yes	no	yes	Fully automatic touch-screen operation; cataract & IOL mode; high-resolution color TFT display; 0.3-second measurement time; fluorescein stimulation; topographer & dry eye software. List of contact lenses. Built-in computer & printer.
Topcon Medical Systems	RM-8900 Autorefractometer	joystick; infrared measuring	no	no	no	2-mm minimum pupil size; color LCD display; auto fogging; rotary prism technology; built-in printer; interfaces w/ Topcon auto lensmeter, CV-5000S refraction system, and today's most popular EMR systems.
Topcon Medical Systems	RM-800 Auto Refractometer	manul w/motorized alignment system	no	no	no	High resolution 8.5" color touchscreen; compact, modern design with 23% lighter weight for improved operation; built-in printer; features Topcon's Rotary Prism Technology for reliable, reproducible refraction results; LAN & RS232C connection for easy interface to CV-5000S refraction system & today's most popular EMR systems.
Topcon Medical Systems	KR-800 Auto Kerato-Refractometer	manual w/motorized alignment system	no	no	yes/std.	High resolution 8.5" color touchscreen; compact, modern design with 23% lighter weight for improved operation; built-in printer; features Topcon's Rotary Prism Technology for reliable, reproducible refraction & keratometric results; LAN & RS232 connection for easy interface to CV-5000S refraction system & today's most popular EMR systems.
Topcon Medical Systems	KR-8900 Auto Kerato-Refractometer	joystick w/auto-firing; infrared measuring	no	no	yes/std.	2-mm minimum pupil size; central K readings; color LCD display, auto fogging; rotary prism technology; auto-fire mode; built-in printer; corneal pupil diameter measurement; interfaces w/Topcon auto lensmeter, CV-5000S refraction system and today's most popular EMR systems.
Topcon Medical Systems	KR-8000PA Auto Kerato-Refractometer Topographer	joystick w/auto-firing; infrared measuring	no	no	yes/std.	2-mm minimum pupil size; peripheral keratometry; optional color-mapping software available; corneal mapping measurements out to 9.2 mm; interfaces w/Topcon auto lensmeter, CV-5000 refraction system and today's most popular EMR systems; auto fogging; rotary prism Placido ring technology.
Topcon Medical Systems	KR-1W	auto-alignment, auto-focus and auto right/left simultaneous measure	no	no	yes	5 simultaneous measures to evaluate visual performance, both quantitatively and qualitatively. The KR-1W combines Hartmann-Shack wavefront aberrometry, near-infrared corneal topography, keratometry, pupillometry and auto-refraction. Multiple maps for overview analysis; large color touch screen; fully networkable in various configurations.
Topcon Medical Systems	KR-1 Auto Kerato-Refractometer	auto-alignment, auto-focus auto right/left simultaneous measurement	no	no	yes/std.	360° rotatable monitor allows you to position the instrument in any direction; fully automated operation with easy-to-use color touch-screen; features Topcon's Rotary Prism Technology for reliable, reproducible results; interfaces with Topcon auto lensometer, CV-5000S refraction system, and today's most popular EMR systems.
Tracey Technologies	iTrace Workstation Visual Function Analyzer	auto-align, auto-capture auto-fogging	no	no	yes	Integrated ray-tracing aberrometry, corneal topography, auto-refractometry, auto-keratometry, pupillometry in one device; multizonal refraction analysis at user-defined zone sizes for assessing photopic and scotopic vision. Confidence indicator to alert to presence of Higher Order Aberrations or Night Myopia.
Welch Allyn	14010 SureSight Autorefractor	direct view/data acquisition	no	no	no	Features Wavefront Sensing Technology; less than 5 seconds per eye test time; data acquisition from 14"; child-friendly; battery operated and portable; weighs 2 lbs.; IR data transfer to cordless printer.

DIGITAL SLIT LAMPS

COMPANY	MODEL	TYPE/DESIGN	MAGNIFICATIONS	IMAGING/OPTICS	VIDEO	FEATURES
AIT Industries (Manufactured by Viewlight)	CSL-8U	Galilean	5-step revolving drum	18 megapixel photos	1080P video	German optics, variable intensity illumination, photo button on joystick, all-in-one touch-screen computer included. Wireless transmission of photos to iPad, Android or PC.
Topcon Medical Systems	SL-D2	illumination below binoculars	10X; 16X; 25X	converging/parallel	yes	Halogen illumination & continuous rheostat; digital ready optional DC-3 8MP integrated camera. Filters: blue, red-free, amber.
Topcon Medical Systems	SL-D4	illumination below binoculars	6X; 10X; 16X; 25X; 40X	converging/parallel	yes	Halogen illumination & continuous rheostat; digital ready optional DC-3 8MP integrated camera. Filters: blue, red-free, amber.
Topcon Medical Systems	SL-D7	illumination above binoculars	6X; 10X; 16X; 25X; 40X	converging/parallel	yes	Halogen illumination & continuous rheostat; optional flash photography capability; digital ready; optional DC-3 8MP integrated camera or 12MP Nikon™ camera. Filters: blue, red-free; heat-absorbing 13% neutral density; amber
Topcon Medical Systems	SL-D8Z	illumination above binoculars	Zoom 6X to 32X	converging/parallel	yes	Halogen illumination & continuous rheostat; optional flash photography capability; digital ready; optional DC-3 8MP integrated camera or 12MP Nikon™ camera. Filters: blue, red-free; heat-absorbing 13% neutral density; amber
Haag-Streit USA	IM900 Imaging Module	HS BQ900 Only	n/a	aperture for depth of focus	still & video capture	Still & video image capable at same resolution. History Trigger. DICOM/EMR. Please contact HS for additional information.
Haag-Streit USA	CM-900 Imaging Module	Adaptable to slit lamps with C-mount capability			still & video capture	Still & video image capable at same resolution. History Trigger. DICOM/EMR. Please contact HS for additional information.
HAI Laboratories, Inc.	SL-5000p Digital Video Slit Lamp (Plus Model)	Compatible with universal beam splitter (thumbscrew-style); C-mount camera	0-180° continuous slit angle; 5°, 10°, 15°, 20° slit inclination 0-14mm slit width	-5D to +3D diopter adjustment 55-75mm pupil distance	Sample SL-5000 slit lamp video clips at hailabs.com/slit-lamp	Comes with HAI IMS/CL Image Management System, for storing & organizing diagnostic images with patient data. Optional accessories: observation/teaching tube, background illumination with optional cobalt enhancement filter. Compatible with HAI CL-1000eva Endothelium Viewing Attachment for specular microscopy exam.
OCULUS Inc.	ImageCam® 2	Adaptable to most slit lamps in the market including Zeiss, Topcon, Haag-Streit, Nidek, Marco, Takagi, Reichert, Rodenstock, Woodlyn, etc (Please contact OCULUS for more details).	YES/beam splitter can be switched in or out as needed	iris apature for depth of focus	Yes / ability to freeze the the video & extract the best pictures in high resolution	This high performance digital camera is adaptable to most existing slit lamps in the market. It takes and documents high-quality pictures and videos of the slit lamp observations. The lightweight system consists of a beam splitter with swivel IN/OUT function, an aperture for depth of focus control, network capable software and a foot switch. The sophisticated "frame out of video" feature allows grabbing the best pictures out of the video in high resolution. EMR ready.

LENSES-NON CONTACT DIAGNOSTIC

COMPANY	LENS	MAGNIFICATION	FIELD OF VIEW	APPLICATION	USAGE	FEATURES
Haag-Streit USA	630	n/a	59/66/73	For use with slit lamps that have a smaller distance between the eye & the reduction prism	For examination of the entire fundus, the vitreous & the iridocorneal angle	n/a
Haag-Streit USA	901	refractive power of -64D	30	For the binocular slit observation of the pupil & macula out to 30° & the central vitreous body sections.	Easy to use, lightweight glass provides a direct image	n/a
Haag-Streit USA	903	n/a	59/66/73	Examination of the entire ocular fundus & the iridocorneal angle	Classic Goldmann glass	n/a
Haag-Streit USA	903S	n/a	59/66/73		same as the 903 but with sceral flange	n/a
Haag-Streit USA	906	n/a	59/66/73	Examination of the entire fundus, vitreous & the iridocorneal angle	Newborn	smaller mirrors suitable for the examination of small children
Haag-Streit USA	906S	n/a	59/66/73	Examination of the entire fundus, vitreous & the iridocorneal angle/scleral flange	Newborn	smaller mirrors suitable for the examination of small children
Haag-Streit USA	907	n/a	59/66/73	Examination of the entire fundus, vitreous & the iridocorneal angle	For children up to 4 years of age	smaller mirrors suitable for the examination of small children
Haag-Streit USA	81D	n/a		2 in 1 lens, providing 90D & 78D when used from each side	non-contact, stereoscopic exam of central fundus	n/a
Volk	20D	3.13x	60°	Binocular Indirect Ophthalmoscopy	Industry standard general	Great balance of field of view and magnification diagnostic lens
Volk	28D	2.27x	69°	Binocular Indirect Ophthalmoscopy	Wider field fundus scanning	Excellent for examination through small pupils
Volk	30D	2.15x	75°	Binocular Indirect Ophthalmoscopy	Pediatric diagnosis and treatment	Small profile for ease of use within the orbit

LENSES-NON CONTACT DIAGNOSTIC

COMPANY	LENS	MAGNIFICATION	FIELD OF VIEW	APPLICATION	USAGE	FEATURES
Volk	Digital ClearMag	3.89x	49°	Binocular Indirect Ophthalmoscopy	Highest resolution posterior pole	High magnification for fine detailed views lens
Volk	Digital ClearField	2.79x	72°	Binocular Indirect Ophthalmoscopy	Highest resolution pan retinal lens	Hybrid of the 20D and 28D lenses
Volk	78D	.93x	97°	Slit Lamp	Classic high mag lens	Great balance of field of view and magnification
Volk	90D	.76x	89°	Slit Lamp	Classic general diagnostic lens	Excellent for examination through small pupils
Volk	Super Field	.76x	116°	Slit Lamp	Pan retinal examination	Superior field of view to standard 90D
Volk	Super 66	1.0x	96°	Slit Lamp	Great stereo views of the fundus	1.0x magnification great for disc evaluation and measurement
Volk	Digital Wide Field®	.72x	124°	Slit Lamp	Widest field views of any slit lamp	Best in class 90D type of lens lens
Volk	Digital High Mag®	1.3x	70°	Slit Lamp	Highest magnification of any slit	Best in class posterior pole lenslamp lens

GONIO LENSES

COMPANY	LENS	MAGNIFICATION	FLANGED	USAGE	FEATURES
Haag-Streit USA	CGA		58	Designed for laser treatments of the chamber angle	Used with Argon, Diode and YAG lasers
Volk	3 Mirror	1.06x	Yes	For angle and retinal examination	Acrylic for lighter weight
Volk	3 Mirror ANF+	1.06x	Yes	For angle and retinal examination	Proprietary flange does not require viscous fluid
Volk	G3	1.06x	Yes and no	For angle and retinal examination	Glass for highest quality imaging
Volk	G4	1.0x	Yes	Standard 4 mirror lens for gonioscopy	All glass design for superior clarity
Volk	G4 (NF)	1.0x	No	4 mirror lens, no fluid required	Available in ring or handle holding options
Volk	G4 High Mag	1.5x	Yes	High mag lens for gonioscopy	Higher magnification provides more detailed angle views
Volk	G4 High Mag (NF)	1.5x	No	High mag lens, no fluid required	Available in ring or handle holding options
	Mini 4 Mirror	1.0x	Yes	Small profile 4 mirror for small anatomies or pediatric usage	Proprietary flange does not require viscous fluid
Volk	G6 (NF)	1.0x	No	6 mirror lens for best 360° angle views	Eliminates gaps experienced between mirrors

ULTRASOUND

COMPANY	MODEL	TYPE	FREQUENCY	SCREEN SIZE	CLEARSCAN COMPATIBLE	DIMENSIONS/SIZE	ADDITIONAL FEARTURES
Accutome	UBM Plus®	UBM	48 MHz	n/a (plugs directly into any laptop)	yes	7" long x 1.25" diameter	Detailed structure definition including cornea, iris, ciliary body, zonules, crystalline lens & intraocular lens as well as pathologies. State-of-the-art probe design; unsurpassed data analysis. Portable: can plug probe into any laptop or PC and go. Adaptable document rate transfer via EMR, email or printer. User-friendly interface makes user manuals and quick-start guides unnecessary.
Accutome	A-Scan Plus Connect®	A-Scan Biometer	10 MHz	n/a (plugs directly into PC, laptop or tablet)	n/a	5.4"x 3.7" Module	Immersion & contact measurement modes. Faster measurement capture time to improve patient flow. Optimized lens constants. Upgradeable software loads directly to laptop, tablet or PC.
Accutome	B-Scan Plus®	B-Scan	12 or 15 MHz	n/a (plugs directly into PC, laptop or tablet)	n/a	7" long x1.25" diameter	Detailed structure definition including vitreous, retina & optic nerve. State-of-the-art probe design; unsurpassed data analysis. Portable: can plug into laptop, tablet or PC & go. Adaptable document rate transfer via EMR, email or printer.
DGH	DGH 6000 Scanmate A-Scan	A-Scan	10 MHz	n/a - USB connection to computer	no	5.75" x 3.5" module	A portable USB A-Scan with contact and water immersion modes. Multiple IOL formulas, including post-refractive. Customizable, professional reports. EHR compatible.
DGH	DGH 8000 Scanmate B-Scan	B-scan	12 /15 MHz probe	n/a - USB connection to computer	yes	probe length: 7" probe diameter: 1.25" probe weight: 6 oz	A portable USB B-Scan with high resolution images (still images or video loops), vector A-mode, zoom control, dual measuring calipers, position map, post processing of images, and professional reports. EHR compatible.
Nidek, Inc.	EchoScan US-4000	B-Scan, Biometry Pachymetry	10 MHz solid probe, 10 MHz transducer probe 10 frames/sec	Color LCD, 8.4" TFT, (XGA 1024 x 768)	no	Compact, 8.5kg	Compact, comprehensive ultrasound device includes B-Scan, biometry & pachymetry touch panel display. Tiltable color LCD. No PC required. Pachymetry mode offers precise measurement of the corneal thickness within a ± µm error. Easy data transfer through USB memory & LAN. 10 MHz transducer. 10 frames/sec probe with scan angle of 60º & scan depth normal (35mm / 1550m/s), long (50mm / 1550m/s)
Reichert Technologies	Reflex	UBM, B-scan	35 or 50 MHz	17"	yes	439 mm(W) x 92 mm(D) x 376.5 mm(H) 26 lbs	Compact, easy to move, set up & operate. User-friendly software allows diagnostic data & measurements to be obtained with minimal traning. Foot pedal allows for hands-free image acquisition. Unique touch-screen display allows for input without a keyboard. Compatible with Clearscan probe covers.
Sonomed Escalon	VuMax	UBM	35 or 50 MHz	19"	yes	14"H x 7"W x 17.2"D 20 lbs.	The VuMax Ultrasound Bio-Microscope takes you to another level of image quality & accuracy in high-resolution, high-frequency ultrasound. This innovative system provides incomparably clear & extremely accurate images of the anterior segment of the eye faster & more easily than ever to support your diagnostics pre- & postoperative decision-making, patient-monitoring needs at the highest levels of performance & reliability.
Sonomed Escalon	PacScan Plus 300A+	A-Scan	10MHz	5.2" x 3.9"	no	7"H x 8.5"W x 10"D 6 lbs.	A combination of high frequency, low noise probe & proprietary algorithms enables scan capture immediately upon applanation along the visual axis with precise measurement of lens thickness & axial length. Intuitive interface, customized set-up & advanced hard-ware designs enable quick & easy examination of different eye types. Consistent & accurate results, time after time, year after year, we build unparalleled quality into every ultrasound system.
Tomey	UD-8000	B-Scan, UBM	15/20/60 MHz	15"	yes	398(w)x359(d)-456(h) mm	Color touch screen operation, EHR compatible

WAVEFRONT ABERROMETERS

COMPANY	MODEL	MEASURING PRINCIPLE	METHOD	NUMBER OF DATA POINTS	POINT SPREAD FUNCTION	INTERNAL OPD/ LENTICULAR DIFFERENCE	ZERNIKE OUTPUT	ADDITIONAL FEATURES
Marco	OPD-scan III	Dynamic spatial skiascopy	optical path difference	2,520	yes	yes	WF Refraction & RMS value on thermal tape. Zernike map displays bar graphs, WF error.	Topographer; wavefront analyzer; OPD; internal OPD; pupillometer; Angle Kappa; retro illumination image; spherical aberration of cornea; mesopic & photopic pupil displayed; combined with automated phoropter performs the XFRACTION; EMR ready through Marco Connect.
Topcon Medical Systems	KR-1W	Hartmann-Shack	Monocular auto-focus, auto-capture, simultaneous measure of 5 functions	2,209	yes	yes	WF refraction at actual photopic and scotopic pupil size; Zernike vector maps; RMS values displayed at actual pupil size, 4mm and 6mm	The KR-1W combines 5 simultaneous measures: Hartmann-Shack wavefront aberrometry, near-infrared corneal topography, keratometry, pupillometry and auto-refraction. Multiple WF analysis maps include: low- & high-order aberrations, spherical aberrations, ocular total aberrations, corneal & internal aberrations, Landolt's Ring simulation, Hartmann image, RMS, WF refraction & pupillometry, Zernike vector PSF/MTF, IOL selection maps, and customizable map displays. KR-1W Viewer software available.
Tracey Technologies	iTrace Workstation Visual Function Analyzer	Infrared laser ray tracing	Auto-capture with monocular/binocular open-field and Badal Optometer fixation	256 individual zones, each measured sequentially with 1024 data points in <250 ms	true, directly-measured PSF	yes	yes; including multizonal Zernike displayed as coefficients, bar graphs, and individual RMS or combined RMS terms	5-in-1 functionality also includes corneal topography, auto-refraction and pupillometry and keratometry; accommodation volume; VFA Summary display with potential visual complaints; certain product version include Angle Kappa/Angle Alpha measurement; and Chang Analysis, and cataract surgical applications such as toric planning, Zaldivar Toric Caliper.

PERIMETERS

COMPANY	MODEL	STIMULUS	AREA OF FIELD	STANDARD TESTS	PRINTER	TEST STRATEGIES	ADDITIONAL FEATURES
AIT Industries (Manufactured by OPTOPOL)	PTS-910	Static, Goldmann Size III	100° (130° for drivers test)	central 30°, full 50°, peripheral 30-50°, macula 10°, glaucoma 22/50°, driving test nasal 50°, temporal 80°, fast 30°, user defined 50°, BDT-binocular driver's test 80° horizontal, 50° vertical	optional inkject, color or Humphrey style	Absolute level, Hill of Vision deviation, Age norm deviation, defects progression analysis, Results comparison, Bebie curve, 3D visualizations of patients HOV	Eye monitoring by means of builti-in CCD camera, Auto-detection of eye position, Automatic pupil diameter measurement, Automatic adjustment of chin-rest height, fixation method: control of blind spot position (11 points) digital detection of pupil position, patient patient respose time: adaptive to speed or set manually from 0, 1 to 7, 5s, background illumination: white 10 as set automatically, color (314 asb yellow color for blue on yellow); Self-diagnostic function checking instrument's efficiency.
Carl Zeiss Meditec	Humphrey Field Analyzer II-*i* Model 740i	Goldmann std. proj. size I, II, III, IV, V; Heijl-Krakau fixation monitor & video eye monitor; gaze tracking	89° maximum temporal range	threshold 24-2, 30-2, 10-2, macula, 60-4, nasal step screening, peripheral, social security disability, Esterman	built-in thermal; can be hooked up to HP LaserJet	threshold: SITA, FastPac; full screen: age ref. strategy; threshold-related; 2-zone, 3-zone & quantify defects	Now with VFI, *EasyConnect*, Guided Progression Analysis (GPA) and HFA-NET Pro standard. 19 test patterns; user-designed custom testing w/range to 90°; patented gaze-tracking system provides true reliability assessment without disrupting testing. Built-in 40 GB data storage; compares multiple STATPAC results via print-out; Goldmann I-V foveal threshold testing; red/blue testing; custom testing avail.; built-in VGA monitor hookup for remote viewing. DICOM Gateway. compatible (optional). HFA II-*i* comes with the capability to connect to FORUM Data Management system.
Carl Zeiss Meditec	Humphrey Field Analyzer II-*i* Model 745i	Goldmann std. proj. size I, II, III, IV, V; Heijl-Krakau fixation monitor & video eye monitor; gaze tracking	90°	threshold: 4 central, 2 periph. patterns: screening: 5 central, 7 full-field/periph patterns	built-in thermal; can be hooked up to HP LaserJet	threshold: SITA, FastPac; full screen: age ref strategy; threshold-related; 2-zone, 3-zone & quantity defects	Includes all features of 740i; STATPAC for blue/yellow perimetry. DICOM Gateway compatible (optional). HFA II-*i* comes with the capability to connect to FORUM Data Management system. FORUM allows real-time viewing of reports or images from supported networked ZEISS and non- ZEISS instruments. FORUM supports bi-directional workflow for supported DICOM enabled devices, reducing charting errors and increasing patient throughput. Additionally, HFA, when utilized with FORUM, enables the archiving of raw data, automatic back up after every exam and the creation of combination structure function reports (with Cirrus HD-OCT).
Carl Zeiss Meditec	Humphrey Field Analyzer II-*i* Model 750i	Goldmann std. proj. size I, II, III, IV, V; Heijl-Krakau fixation monitor & video eye monitor; head tracking; vertex monitor; gaze tracking, automatic pupil measurement	90°	threshold 24-2, 30-2, 10-2, macula, 60-4, nasal step screening, peripheral, social security, disability screening, Esterman	built-in thermal; can be hooked up to HP LaserJet	threshold: SITA, FastPac; full screen: age ref. strategy; threshold-related; 2-zone, 3-zone & quantify defects, SITA SWAP	Model 750i includes all of the previous features plus head tracking; automatic vertex monitoring; automatic pupil measurement; std. blue/yellow testing; kinetic testing & keyboard; all models upgradable. DICOM Gateway compatible (optional). HFA II-*i* comes with the capability to connect to FORUM Data Management system. Additionally, HFA, when utilized with FORUM, enables the archiving of raw data, automatic back up after every exam & the creation of combination structure function reports (with Cirrus HD-OCT).
Carl Zeiss Meditec	Humphrey FDT Visual Field Instrument with frequency doubling tecnology	frequency doubled sinusoidal gratings (0.25 cpd; 25 Hz)	30°	screening: C-20 + N-30 full threshold: C-20, N-30	thermal	MOBS	45-second screening; 4-minute threshold; 19 lbs.; easy to use; age-related normative database.
Carl Zeiss Meditec	Humphrey Matrix 800 Visual Field Instrument with frequency doubling technology	frequency doubled sinusoidal gratings	30°	screening: N-30,24-2 threshold: N-30-F, 24-2 FDT, 30-2 FDT Macula: 10-2, Macula Threshold (4°)	external 8.5 x 11 color printer	MOBS Zest	Fast screen <1 minute; 20GB HD; CD RW drive; USB drive; external keyboard; chinrest; small footprint; statistical analysis w/age-related normative database; serial field overview; monitoring; no eye patch needed; no trial lens needed out to ± 3.00D; ambient light testing. Full connectivity to office networks, EMRs, and FORUM.
CenterVue, Inc.	MAIA	Goldmann III std. size. White LED projection system	20° centered on point of fixation	5 centeral standard grids plus user-definable grids	optional	FAST-TEST: less than 3 minutes per eye. EXPERT TEST: Macular threshold at multiple measurement points for a complete and detailed test. FOLLOW-UP TEST: Measures functional changes due to the disease and/or retinal treatment. FIXATION STABILITY TEST: the eye-tracker simultaneously monitors fixation	The MAIA microperimeter combines a high resolution SLO image, standard threshold perimetry, precise 25Hz eye-tracker and automatic focusing system. It's easy to use even with highly unstable fixation and eccentric fixation patients. SLO live imaging of the central 20° field of view captures both form and function. The image lock ensures high accuracy, precision and repeatability. Use the MAIA to detect early changes in macular sensitivity and to follow disease progression and/or therapeutic efficacy.
Haag-Streit USA	Octopus 900 BASIC	100% total fixation control; unique auto eye tracking; no fixation losses; video eye monitor and chin rest sensor; Goldmann standard projection I, II, III, IV, V. White/white (SAP)	90° in Goldmann spherical bowl	Diagnostic thresholds for glaucoma & macula; linear 32 & macula threshold; low vision; neurological; diabetes; blepharoptosis; multiple screening tests, including glaucoma & 130-point screenings, binocular and monocular Estermann. Plus custom test capabilities. Also includes 30-2, 24-2 and 10-2 programs.	Perimeter controlled by PC/LCD monitor & ink jet printer (all provided); EyeSuite software provided for long-term storage & data analysis and advanced progression analysis; easily networked; EZ to read 7 in 1 printout. Plus ability to provide HFA style printout.	TOP (tendency oriented perimetry) for thresholds in just over 2 1/2 minutes per eye; dynamic; normal – all age related; 1 and 2 level screening tests with supra-threshold	Automatic pupil measurement; automated lens holder; stimuli presentations are adaptive to patient responses; easily upgraded to 900 PRO series; wheelchair-accessible table provided; easily integrated with electronic medical records. Auto-export of PDF, jpg or png files. Simple drag/drop functionality for patient data management. Easily import existing HFA data (700 series) into EyeSuite. Auto-backup feature. EyeSuite's nonproprietary MySQL database can be utilized as single database for several perimeters. DICOM Compliant for modality worklist management and export of a DICOM encapsulated .pdf or DICOM image file (.dcm).

PERIMETERS

COMPANY	MODEL	STIMULUS	AREA OF FIELD	STANDARD TESTS	PRINTER	TEST STRATEGIES	ADDITIONAL FEATURES
Haag-Streit USA	Octopus 900 PRO	100% fixation control; unique auto eye tracking; no fixation losses; video eye monitor and chin rest sensor; one system offering standard static white/white + blue/yellow + Flicker + TRUE Goldmann Kinetic + low vision + red/white. Goldmann standard projection I, II, III, IV, V.	90° in Goldmann spherical bowl.	Diagnostic thresholds for glaucoma & macula; linear 32 & macula threshold; low vision; neurological; diabetes; blepharoptosis; multiple screening tests, including glaucoma & 130-point screenings, binocular and monocular Estermann. Plus custom test capabilities. Also includes 30-2, 24-2 and 10-2 programs.	Perimeter controlled by PC/LCD monitor & ink jet printer (all provided); EyeSuite Software provided for long-term storage & data analysis and advanced progression analysis; easily networked; viewing stations – no charge; EZ to read 7 in 1 printout. Plus ability to provide HFA style printout.	TOP (tendency oriented perimetry) for thresholds in just over 2.5 minutes per eye; dynamic; normal – all age related; 1 and 2 level screening tests with supra-threshold	Automatic pupil measurement; automated lens holder; stimuli presentations are adaptive to patient responses; easily upgraded to 900 PRO series; wheelchair-accessible table provided; easily integrated with electronic medical records or image management systems. Auto-export of PDF, jpg or png files. Simple drag/drop functionality for patient data management. Easily import existing HFA data (700 series) into EyeSuite. Auto-backup feature. EyeSuite's nonproprietary MySQL database can be utilized as single database for several perimeters. DICOM Compliant for modality worklist management and export of a DICOM encapsulated .pdf or DICOM image file (.dcm).
Haag-Streit USA	Octopus 300	100% total fixation control, plus unique auto eye tracking; no fixation losses; video eye monitor and forehead rest sensor; Goldmann standard projection III, V; operates in diffused room lighting one system offering standardized static white/white and upgradeable to blue/yellow (SWAP) and Flicker.	30° direct projection; far distance correction only needed.	Diagnostic thresholds for glaucoma and macula; linear 32 threshold; low vision; multiple screening tests, including 30 second per eye; 1 minute per eye + custom testing to build multiple examinations	No outdated processor built in; easy to read 7-in-1 printout; auto print and/or export to our EyeSuite to supplied PC for long-term storage & data analysis; easily networked; easy integration with EMR or image management. Plus ability to provide HFA style printout.	TOP (Tendency Oriented Perimetry) for thresholds in just over 2 1/2 minutes per eye; dynamic; normal – all age related; 1 and 2 level screening tests with supra-threshold nonproprietary MySQL database can be utilized as single database for several perimeters.	Automatic pupil measurement; stimuli presentations are adaptive to patient responses; wheelchair-accessible table (either compact or universal sized) available; easily integrated with electronic medical records using provided EyeSuite Software package. No service contracts. Free software updates. Easily import existing HFA data (700 series) into EyeSuite. EyeSuite's standard, DICOM Compliant for modality worklist management and export of a DICOM encapsulated .pdf or DICOM image file (.dcm).
Haag-Streit USA	Goldmann Kinetic	True Goldmann I thru V + 1a thru 4e. Control speed of 0 (static) or 2/3/4/5/10 degree per second. 4 vector types: test, guided, free and reaction time.	Software package to 900 Basic (option) & Pro (standard).	Build ANY kinetic test needed & save to library for perfectly repeated tests every time	n/a	Manual or automated Goldmann Kinetic; use of automated, guided or free vectors	Quantification of kinetic isoptors for easy comparison; field correction based on reaction time of patients' response; zoom function to plot selected areas that can be used in combination with static perimetry.
Haag-Streit USA	EyeSuite Software Analysis Program	EyeSuite Software Analysis Program	Archive perimetry data with single field analysis.	EyeSuite Software standard on all 300 & 900 perimeters	n/a	n/a	Easily networked w/no extra charges for viewing stations; easily integrated w/electronic medical records. Archive perimetry data w/single-field analysis + cluster trend analysis structure function graph. New cluster and polar graphs.
Heidelberg Engineering	Heidelberg Engineering Perimeter	SAP (standard automated perimetry) white-on-white; and Flicker Defined Form	60°	10-2, 10-3, 24-2, 30-2, 0-60	yes	ASTA (Adaptive Staircase Thresholding Algorithm) standard; ASTA follow up, ASTA Fast, screening for both SAP & FDF perimeters	Structure/Function reports with Spectralis and HRT systems.
Kowa Optimed Inc.	AP-5000C	Goldmann std. proj. size II-V, Heijl-Krakau Eye fixation monitor	80°	25 test programs including threshold: Center 1 & 2, macula, periphery & meridian; screening: standard or precision; isopter: Goldmann & automatic perimeter is combined	External PC connected	threshold: IQAC aged reference screening 2,3,4 zone & quantify defects.	In ocular fundus perimetry, the visual field is examined w/an ocular fundus image displayed on screen. System offers capability to overlap ocular fundus image & perimetry result so physician can better understand the retinal function.
Medmont Instruments	M700 Automated Perimeter	Goldmann Size III – Pale green 80º rear projection LED (red macula stimulus optional) video fixation monitoring feature	80°	Central 30°, full 50°, peripheral 30° - 50°, macula 10°, glaucoma 22°/50°, neurological 50°, Flashscan 15°/30°, driving 50°/80°, binocular 30°/40°, binocular driving test 160°, spatially adaptive test 50°; customize any test or build your own.	use any printer via PC	full threshold, fast threshold, screening, flicker, age related, fixed level, 3 zone, binocular single vision	Instrument is controlled via PC, which allows for easy networking in your office & integration with your EMR or PM software. Includes the ability to add & retest points while the test is running. Software allows you to view exams in 2D or 3D, in color or greyscale, overlay retinal images over visual field exams. Utilizes previous exams from patients to reduce test time & gives detailed progression & regression analysis reports or patient history. Customize printouts for your needs.
Nidek, Inc.	MP-1, Retinal Function Analyzer	Goldmann I, II, III, IV, V from 100ms to 200ms	45º	New- now with scotopic testing available	External	4-2-1, 4-2, fast raw, manual	Ability to create custom perimetry patterns programmable parameters allows the user to specify: stimulus intensity, location, size, color, duration & user-defined custom patterns. Perimetry and fixation data are automatically plotted over a color fundus photo. Biofeedback system with fixation therapy for low-vision patients.
OCULUS Inc.	Centerfield® 2	Goldmann size III stimulus, Heijl-Krakau fixation monitor, central threshold fixation monitor, video eye monitor, static white on white (SAP) and blue on yellow perimetry, automated kinetic perimetry; operates in diffused room lighting	70° in all directions (35° direct, 70° fixation shift), Goldmann spherical bowl	Test patterns: 10-2, 24-2, 30-2; 30x24; physiological (centrally increased density of locations), periphery (Esterman) user defined; Threshold tests (glaucoma, macula, neurological) for diagnosis, screening tests, patient training, SPARK perimetry (optional).	Support all printers throughthe external PC. Clear international printout format.	SPARK perimetry (optional) for threshold exams in max. 3 minutes per eye, CLIP (Continuous Light Increment Perimetry) thresholding, Fast Threshold, Full Threshold, Supra-threshold: age adapted class strategy, 2-zones, 3-zones, quantify defects. Automated kinetic tests for low vision patients.	Transportable table-top perimeter with motorized chinrest. Standard USB, net-working without additional software, standard viewing on additional workstations free of charge. Easy EMR integration. DICOM compatible. CLIP and optional SPARK strategy for fast threshold exams, GSP glaucoma expert system for single examinations, TNT for advanced progression analysis. Color 3D result display. Direct comparison of exams, complete overview display. Free software updates. Data export into Excel. Measurements under normal light condition possible.
OCULUS Inc.	Twinfield® 2	Goldmann size I,III, V stimulus; Heijl-Krakau fixation monitor, central threshold fixation monitor, video eye monitor, static white on white (SAP), blue on yellow and red on white perimetry, automated kinetic perimetry; manual Goldmann perimetry	90° in all directions, Goldmann spherical bowl	Test patterns: 10-2, 24-2, 30-2, 30x24; physiological (centrally increased density of locations), periphery (Esterman) user defined; Threshold tests (glaucoma, macula, neurological) for diagnosis, screening tests, patient training, SPARK perimetry (optional).	Support all printers through the external PC. Clear international printout format.	SPARK perimetry (optional) for threshold exams in max. 3 minutes per eye, CLIP (Continuous Light Increment Perimetry) thresholding, Fast Threshold, Full Threshold, Supra-threshold: age adapted class strategy, 2-zones, 3-zones, quantify defects. Automated kinetic tests for low vision patients, Goldmann manual kinetic, semi-automated kinetic tests.	Complete full-field perimeter with motorized chinrest. Increased patient comfort. Standard USB, networking without additional software, standard viewing on additional workstations free of charge. Easy EMR integration. DICOM compatible. CLIP and optional SPARK strategy for fast threshold exams, GSP glaucoma expert system for single examinations, TNT for advanced progression analysis. Color3D result display. Direct comparison of exams, complete overview display. Free software updates. Data export into Excel.
OCULUS Inc.	Easyfield® C	Goldmann size III stimulus; Heijl-Krakau fixation monitor, central threshold fixation monitor, video eye monitor, static white on white perimetry (SAP) operates in diffused room lighting	30° in all directions, Goldmann spherical bowl	Test patterns 10-2; 24-2; 30-2; 30x24; hemispheres, quadrants, user defined; Threshold tests (glaucoma, macula, neurological) for diagnosis, screening tests, patient training, SPARK perimetry (optional).	Supports all printers throughthe external PC. Clear international print format.	SPARK perimetry for threshold exams in max. 3 minutes per eye, CLIP (Continuous Light Increment Perimetry) thresholding, Fast Threshold, Full Threshold, Supra-Threshold: age adpated 2 zones, 3-zones, quantify defects.	Lightweight, portable, reliable perimeter with vertically adjustable double chinrest and perimeter cone, and lateral eye-shields for exams without an eye-patch. Standard USB interface allows networking without additional software, standard viewing on additional workstations free of charge. Easy EMR integration. DICOM compatible. Includes SPARK Quick and CLIP strategy for fast threshold exams, GSP glaucoma expert system for single examinations, Brusini GSS 2 chart, TNT for advanced progression analysis. Free software updates. Measurements under normal light condition possible.
OCULUS Inc.	SPARK Perimetry	Goldmann standard size III white on white (SAP) test	central visual field (30°) 30x24 fixed pattern	Threshold tests for precision measurements, screening and patient training. Fine-tuned for glaucoma. SPARK-N for neurological cases.	n/a Clear international printout format	SPARK Precision (4 phases -- 3 min) SPARK Quick (2 phases -- 1.5 min) SPARK Training (1 phase -- 40 s) SPARK-N Precision (4 phases -- 3 min) SPARK-N Quick (2 phases -- 1.5 min) SPARK-N Training (1 phase -- 40 s)	Available as licensed option for all OCULUS perimeters. SPARK uses statistical correlations between threshold values of neighboring locations or locations along the same nerve fiber bundle to accelerate the exam. The four phases of the test provide four sets of threshold values, the final result is obtained by taking the median in each location. The averaged result ensures higher repeatability of the test, ideal for progression analysis. High correlation with OCT findings.
OCULUS Inc.	Glaucoma Staging Program (GSP)	Analysis tool for Goldmann standard size III white on white (SAP) test	Central visual field (30°) 24-2, 30-2, 30x24 patterns	Applicable for any kind of threshold strategy.	n/a Color-coded display	Used for exams performed with SPARK, CLIP, Fast Threshold, Full Threshold	Available as licensed option for all OCULUS perimeters. GSP assigns findings to visual field classes: *normal*, *glaucomatous*, *artifactual* and *neuro*. The classification is optimized to reproduce glaucoma expert opinions. The database of GSP includes correlations with the complete clinical picture (including structural changes); the additional information allows GSP to evaluate the risks for the presence of different glaucoma stages, starting from the visual field finding. GSP reveals information beyond perimetric indices. Red-Yellow-Green color-coded display.

PERIMETERS

COMPANY	MODEL	STIMULUS	AREA OF FIELD	STANDARD TESTS	PRINTER	TEST STRATEGIES	ADDITIONAL FEATURES
OCULUS Inc.	Threshold Noiseless Trend (TNT)	Advanced progression analysis tool for standard automated perimetry (SAP) — Goldmann size III, white on white	Central visual field (30°) 30x24, 30-2, 24-2 patterns	Analysis can be performed for series measured using any kind of threshold strategy.	n/a Clear prinout: 1-page main report, Printout of all exams	Used for exams performed with SPARK, CLIP, Fast Threshold, Full Threshold	Available as licensed option for all OCULUS perimeters. TNT uses consistently trend analysis in order to detect progression in visual field. Multiple criteria taken into account: Number of progressing locations, MD regression, progressing sectors of the nerve defect curve. TNT can distinguish between diffuse and focal progression by the the value of the focality index FI. Threshold filtering and the use of the Bebié curve increases result stability. Best result expected with an averaged strategy, like SPARK.
OPTOPOL Technology S.A. (distributed by Canon Healthcare Solutions Division)	PTS 1000	Goldmann size I-V white, blue, red, green	100° (160 with fixation shift horizontally)	Accurate threshold, Intelligent advanced threshold, screening and quick 3-zone.	Printout manager with predefined printout styles	Kinetic, screening, threshold, 3-zone, fast threshold, BSV (binocular single vision), flicker (critical fusion frequency), blue on yellow (SWAP), BDT (Binocular Drivers Test), advanced - reduced field option - neurological defects option	Eye monitoring by means of built-in video camera. Advanced auto-detection of eye position. Automatic pupil diameter measurement. Automatically controlled chin-rest enables you to set proper patient's position precisely and easily. Printout manager with predefined printout styles. Network capabilities (remote database, networked review stations). Direct database back-up. Special ventilation system is used to keep fresh air throughout examination inside stimulation bowl.
Paradigm Medical Industries Inc. Dicon Inc.	TKS 6000 autoperimeter	static w/kinetic fixation; Heijl-Krakau fixation monitor	±90°	10°, 30° & 60° field patterns; 13 programs std.	Inkjet std.; color printer support w/ Fieldview.	threshold-related suprathreshold screening; quantify missed pts.; full threshold; HT	Supported by Adv. FieldView analysis software; USB storage; FieldLink data transfer to PC; voice recognition and voice prompts available in 28 languages.
Paradigm Medical Industries Inc. Dicon Inc.	LD 500 autoperimeter	static w/kinetic fixation; Heijl-Krakau fixation monitor.	±60°	10°, 30° & 60° field patterns; 13 programs std.	Inkjet std.; color printer support w/ Adv. FieldView.	threshold-related suprathreshold screening; quantify missed pts.; full threshold; HT	Half the size of TKS 6000 w/full-field capability; supported by Adv. FieldView analysis software; USB storage; FieldLink data transfer to PC; voice recognition and voice prompts available in 28 languages.
Paradigm Medical Industries Inc. Dicon Inc.	FieldLink Automated Perimetry System	static w/kinetic fixation; Heijl-Krakau fixation monitor.	±60°	10°, 30° & 60° field patterns; 13 programs std.	Inkjet std.; color printer support w/FieldView.	threshold-related suprathreshold screening; quantify missed pts.; full threshold; HT	Includes FieldView Omega Analysis software; FieldLink communications software; laptop computer; deluxe table; voice recognition; voice prompts; Advanced FieldView.
Paradigm Medical Industries Inc. Dicon Inc.	LD 700	Goldmann size III; Heijl-Krakau; red LED fixation targets, static	30°	screening 30°, central field, suprathreshold, full & fast threshold.	optional printer	threshold-related suprathreshold; full threshold; fast threshold	11 lbs., compact, easy to use; connects to any PC or purchase w/touch screen controller; full database for patient management, output range 540-590nm, alignment controls for patient comfort.

PACHYMETERS

NAME	MODEL	TYPE	WEIGHT	RANGE	BUILT-IN IOP CALCULATOR	PORTABILITY	POWER SOURCE	ADDITIONAL FEATURES
Accutome	AccuPach VI	desktop	3.1 lbs.	300 to 999 microns	yes	yes	universal	Voice output; gentle touch probe; easy-to-use touch screen; new Digital Signal Analysis for accuracy.
Accutome	PachPen	handheld	3 oz.	300 to 999 microns	yes	yes	lithium battery	Ergonomically designed to fit comfortably in hand; gentle touch probe; can store & average nine measurements; new Digital Signal Analysis for accuracy.
AIT Industries (Manufactured by Tomey)	SP-100	handheld	1.17 lbs.	150 to 1200 microns	yes	yes	lithium rechargeable battery	Handheld with built-in printer; IOP calculations and network ready; simple to use and highly accurate; user programmable nomograms.
DGH Technology Inc.	DGH-55 Pachmate	handheld	3.6 oz.	200 to 1100 microns	yes	yes	two AAA batteries	Carrying case; charger; extra AAA batteries, and calibration verification device included. Exclusive adjustable, rotatable, detachable probe. Continuous averaging and mapping measurement modes. Bilateral measurement mode.
DGH Technology Inc.	DGH-550 Pachette 2	desktop	4 lbs.	200 to 1100 350 microns, flap option 95 to 1100 microns	yes	yes	A/C	Optional carrying case & optional printer. Continuous averaging & mapping measurement modes. Calibration verification device included.
DGH Technology Inc.	DGH-555 Pachette 3	desktop	1.4 lbs.	200 to 1100 microns; flap option 95 to 1100 microns	yes	yes	two AA batteries	Carrying case; charger; extra AA batteries, and calibration verification device included. Continuous averaging and mapping measurement modes. Bilateral measurement mode.
Micro Medical Devices	P2000 FastPach	handheld	8 oz.	100 to 1200 microns	yes	yes	dual rechargeable batteries	Easy one-touch operation; auto data capture; advanced pattern batteries recognition; automatic IOP adjustment; corneal waveform display; hi-res color LCD and touch screen controls; wireless print; upgradeable to AP2000 (A-scan and pachymeter); ADA; 200+ patient scans on single charge.
Micro Medical Devices	P2000 Pachymeter	handheld	10 oz.	60 to 1200 microns	yes	yes	rechargeable batteries	Automatic IOP adjustment; corneal waveform technology (A-scan of cornea); choice of 20 or 50 MHz probe; corneal mapping; batteries; FemtoScan flap measurement mode; patient database, DSAEK/Thin Flap Mode, hi-res LCD touch screen controls; LRI software.
Paradigm Medical Industries, Inc. Dicon Inc.	P-2200	desktop	3.6 lbs.	200 to 1500 microns	yes	yes	A/C	Pachymeter system w/LCD monitor; 20 MHz P-probe, probe holder; calibration cylinder; foot switch; A/C adapter; built-in thermal printer.
Paradigm Medical Industries, Inc. Dicon Inc.	P-2500 P/A	desktop	3.6 lbs.	200 to 1500 microns	yes	yes	A/C	A-scan pachymeter combination; portable & sleek; 10 MHz A-scan probe & 20 MHz P-probe large LED Display w/auto gain control, 8 axial readings; 6 IOL calculations; built-in thermal printer.
Reichert Technologies	iPac® Pachymeter	handheld	3.53 oz 100 g	200 to 1000 microns	yes	yes	lithium ion battery	Bluetooth® wireless connectivity sends data directly to EMR system or printer. One-button control for easy access to all functions. Large, easy-to-read rotating color LCD display. Rechargeable Lithium-ion battery and USB cable (included) or charging cradle (optional). Intuitive user interface allows customized settings. Ergonomic, lightweight design fits comfortably in your hand. Has 3-year standard warranty. ADA tax benefits apply.
Sonomed Escalon	300P	desktop	3.25 lbs./ 1.4 kg	100 to 1000 microns	yes	yes	A/C	Small footprint, portable, w/touchscreen user interface; built-in probe sensitivity test & automatic calibration check; straight or 45° angled 20 MHz probe.
Tomey	SP-100	handheld	1.17 lbs	150-200 microns	yes	yes	lithium rechargeable battery	Carrying case, up to 4 hours continuous use, built-in printer
Tomey	SP-3000	desk top	8.8 lbs	+/- 150 - 1500 microns	yes	yes	A/C	Color touch screen, built-in printer, averages 20 readings per locations, map capabilities up to 25 discrete locations

CONTRAST SENSITIVITY TESTS

COMPANY	MODEL	TYPE	ALIGNMENT MONITOR	CONTRAST SENSITIVITY TYPE	DAY/NIGHT TARGET ILLUMINATION	DAY/NIGHT GLARE LUMINANCE	ADDITIONAL FEATURES
Marco	SSC-350	Stand alone; 1.1 meter test distance from exam chair	n/a	4 contrast levels on all available optotypes (Snellen, ETDRS, numbers, tumbling E and children's charts)	yes; normal and low photopic luminance viewing conditions	Day & Night Monocular and Binocular glare; 3 glare levels	Wireless remote control; 27 chart types: letter, numbers, tumbling "E," ETDRS, color stereo, phorias, binocular balance children's charts: ability to isolate single character, horizontal line and vertical line on all. Compatible with EPIC or TRS refraction system.
M&S Technologies Inc.	HACSS-Holladay Automated Contrast Sensitivity System	Automated CSF system, including hardware & software. Can be integrated with Smart System 2020 visual acuity system	n/a	US Patent Number: 7,354,155.Sinusoidal bulls-eye displayed at photopic (85cd/m2) & mesopic (3cd/m2) levels. FDA required protocol from 18 down to 1.5 cycles per degree.	day & night includes NDF filter to reduce luminance levels from 85 cd/m2 to 3cd/m2.	yes, 3 glare levels	Fully automated system eliminates technician bias; includes Quick Test program for repeat patient screening thereby minimizing test time; automatic data collection & export feature into M&S DataRight Services. Complies w/ANSI & ISO standards, FDA guidelines. Test time 5 minutes per eye.
OCULUS Inc.	Binoptometer 4P	Computerized vision testing device with a high-resolution color display	yes	Under photopic conditions, 10 contrast levels on all available optotypes (letters, numbers, tumbling E, Landolt rings, etc); under mesopic conditions, 4 contrast levels with and without glare	yes; testing the contrast sensitivity under photopic conditions (130 cd/m^2) & mesopic conditions (0.032 cd/m^2 without, 0.1 cd/m^2 with glare)	4 contrast levels with and without glare under mesopic conditions	Professional vision test unit for the examination of visual acuity, color vision, contrast sensitivity, mesopic vision, phoria, stereo vision, accommodation amplitude and peripheral visual field perception. Examination distance is continuously adjustable from 11 inches to infinity. The integrated height adjustment provides comfort for the patient. The device is portable (depending on accessories only 10.6 to 12.3 lbs), the software is customizable and intuitive to use. Provides a concise printout of results and is EMR compatible.

CONTRAST SENSITIVITY TESTS

COMPANY	MODEL	TYPE	ALIGNMENT MONITOR	CONTRAST SENSITIVITY TYPE	DAY/NIGHT TARGET ILLUMINATION	DAY/NIGHT GLARE LUMINANCE	ADDITIONAL FEATURES
OCULUS Inc.	Mesotest II	Tests for mesopic vision and glare sensitivity. Important supplements to photopic vision testing, especially when night-driving vision capability requires assessment	n/a	4 contrast levels without glare (surr. illumination 0.032 cd/m2) 4 contrast levels with glare (3°, surr. illumination 0.1 cd/m2) Landolt ring in six positions for every contrast level	yes - tests are carried out under normal visual conditions without instrument myopia. The unit is designed in such a way that the results are unaffected by different interpupillary distances of patients	4 contrast levels with or without glare	Motor-operated test procedures. All tests are mounted on a dust-protected, high-quality optical projector disc. The elastic viewing aperture is made of comfortable material. Innovative – no fogging up of spectacles or viewing aperture. Comfortable and safe use of the instrument by the clearly arranged and illuminated control unit or through the serial interface by PC/Laptop. LED light source — no necessity to change lamps. Complies with ANSI & ISO standards.
Stereo Optical Co. Inc.	Functional Vision Analyzer	Closed vision tester w/EyeView software	yes	3-choice, 5-frequency sine-wave (FACT) or low-contrast letters (CAT)	day & night homogenous illumination (continually calibrated to ensure accuracy)	day & night binocular glare testing 2 glare levels (continually calibrated to ensure accuracy)	Features distance/near lens system; new unsurpassed homogenous illumination; only new vision tester that complies w/American National Standards Institute std. Z80.21-1992 (R1998); includes EyeView software demonstrating contrast sensitivity results by pictures.
Stereo Optical Co. Inc.	Optec 5500(P)	Stand-alone vision tester; requires 2 sq. ft.	yes	3-choice, 5-frequency sine-wave (FACT) or low-contrast letters (CAT)	day only (factory calibrated); homogenous illumination	no glare	Features distance/near lens system; choose from 150 different tests that can include distance/near Snellen acuity (ETDRS format) color, stereo test, lateral/vertical phoria & potential acuity.
Stereo Optical Co. Inc.	Optec 5000(P)	stand-alone vision tester; requires 2 sq ft.	yes	3-choice, 5-frequency sine-wave (FACT) or low-contrast letters (CAT)	day only (factory calibrated); homogenous illumination	no glare	Features distance/near lens system; choose from 150 different tests that can include distance/near Snellen acuity (ETDRS format) color, stereo test, lateral/vertical phoria & potential acuity.
Stereo Optical Co. Inc	Optec 1000P	stand-alone	yes	3-choice, 5-frequency (FACT) or low-contrast letters (CAT)	day only (factory calibrated)	no glare	Distance only w/Snellen acuity.
VectorVision Inc.	CSV-1000	stand-alone; 8 to 4 meter test distance from exam chair; non-view-in	3 choice; 4 frequency sine wave	self-calibrated light instrument (patented)	self-calibrated light box (patented)	yes	Wireless remote control; interchangeable test faces; everything from contrast gratings to pediatric symbols; ETDRS acuity.

CORNEAL TOPOGRAPHERS

COMPANY	MODEL	RESOLUTION	PROCESSING TIME	NUMBER OF RINGS	NUMBER OF DATA POINTS	WORKING DISTANCE	FOCUSING MECHANISM	ADDITIONAL FEATURES
Carl Zeiss Meditec	ATLAS Model 9000	0.01D; submicron	less than 1 second	22	thousands	70 mm	Joystick with patented Cone of Focus™ alignment system and Smart Capture™ Technology	Proven Placido disk technology and Arc-Step Algorithm for submicron elevation accuracy. Zernike corneal wavefront analysis for aspheric IOL selection, image simulation of higher order corneal aberrations, invisible ring illumination for patient comfort; auto pupillometry (scoptopic & photopic) and white to white (HVID) measurement. PathFinder II Corneal Analysis Software screens for 5 different corneal conditions with >92% accuracy. MasterFit II CL fitting module. Small footprint, integrated Win XP computer with DVD-ROM/ethernet/USB. ATLAS comes with the onboard functionality to connect to FORUM Data Management system. FORUM allows real-time viewing of reports or images from supported networked ZEISS and non-ZEISS instruments. FORUM supports bi-directional workflow for supported DICOM enabled devices, reducing charting errors and increasing patient throughput.
Carl Zeiss Meditec	Visante *omni* (linking ATLAS with Visante OCT Model 1000)	0.01D; submicron	seconds	22 (ATLAS Placido), OCT pachymetry	thousands	47 mm	V-Trac™ Registration System	Only combined Placido + OCT system for anterior and posterior corneal topography including the Holladay Report; complete anterior segment imaging with full pachymetry map, anterior chamber angle and diameter measurements, corneal flap thickness measurement; Refractive Tools Software for surgical planning; Irido-Corneal Tools Software to quantify angle anatomy; Topography Link Software compatible with ZEISS ATLAS Models 993, 995, and 9000. Visante *omni* comes with onboard functionality to connect to FORUM Data Management system. FORUM allows real-time viewing of reports or images from supported networked ZEISS and non-ZEISS instruments. FORUM supports bi-directional workflow for supported DICOM enabled devices, reducing charting errors and increasing patient throughput.
EyeQuip	Piccolo Topographer	< 1 micron	< 3 seconds	28	7,168 measured 75,000 analyzed	<10 mm	patented infrared vertex detector	Corneal wavefront mapping clearly displays corneal spherical aberration and low and high order aberrations that can be removed from the map individually; slit lamp or table top mount; use your laptop or desktop computer; Exclusive Wave Contact Lens Design Software included.
EyeQuip	Scout Topographer	< 1 micron	< 3 seconds; depends on computer	28	7,168 measured 75,000 analyzed	<10 mm	patented infrared vertex detector	Std. corneal wavefront mapping clearly displays low & high-order aberrations that can be removed from the map individually; opt. IR pupillometry; three interchangeable opt. IR pupillometry; three interchangeable Scout models; portable w/battery; slit lamp mounted or table-based w/a permanent headrest; use your laptop or desktop computer; exclusive Wave Contact Lens software designs custom RGP & soft lenses.
EyeSys Vision, Inc.	Desktop CT	high res	computer dependent	26	9,360	32 mm	image sequence through focus auto-capture	New Desktop Topographer/pupillometer. Solid state USB 2.0 digital design. Automatic video stream exam acquisition. Map options include axial, tangential, elevation, corneal wavefront high-order aberrations map, Holladay diagnostics, surface distortion map, keratoconus detection indices with asphericity coefficient, contact lens map & other map types. Simulated K-readings & white-to-white measurement. Software platform communicates with & can store data from both EyeSys Portable & Desktop systems.
EyeSys Vison, Inc.	System 3000	high res	computer dependent	mutli-res; up to 40 rings	up to 14,400	32 mm	3 camera apex detection with auto-capture	New desktop topographer/pupillometer. Solid state USB 2.0 digital design, patented high-resolution, 3-camera technology and patented multi-resolution, adaptable ring placido. Many options include corneal wavefront high-order aberration map, Holladay diagnostics, white to white measurement, etc.
EyeSys Vison, Inc.	Vista Portable CT	high res	computer dependent	26	9,360	12.5 mm	image sequence through focus auto-capture	Newly updated portable topographer. Fast and easy-to-use, solid state USB 2.0 digital design - no moving parts. Automatic video stream exam acquisition. Map options include axial, tangential, elevation, corneal wavefront high-order aberrations map, Holladay diagnostics, surface distortion map, keratoconus detection indices with asphericity coefficient, contact lens map & other map types. Simulated K-readings & white-to-white measurement. Software platform communicates with & can store data from both EyeSys Portable & Desktop systems.
i-Optics	Cassini	<1 micron (<0.05D)	0.035 seconds 35 ms capture time	no rings; point-to-point color LED technology	670+ measured, > 129,000 analyzed	160 mm	joystick control	Most precise corneal shape analysis & corneal mapping. Based on color LED technology. Especially suitable for superior diagnosis for corneal astigmatism, contact lens fitting & cataract surgery planning. Also dry eye analysis, refractive surgery planning & corneal transplant. Contact free. Wavefront, keratoconus module, pupillometry, fluorescein, 3rd party software connection.
Marco	OPD-Scan III	high res	0.4 seconds	33 vertical; 39 horizontal	11,800	75 mm	XYZ axis fully automatic alignment	Diopter range is on CT 33.75 to 67.5 D; 0.5 to 11 mm; more than 11,800 data points; 33 rings, blue light. Includes axial, instantaneous, gradient, refractive & elevation maps; ARK; Angle Kappa, spherical aberration of cornea, wavefront analyzer; OPD; internal OPD; pupillometer; mesopic & photopic pupil displayed; Windows XP embedded; EMR-ready through Marco Connect.
Nidek	Magellan Mapper	high res; ± .03 mm	< 1 second	60	21,600	1.5 mm	XYZ joystick w/auto-offset correction	Klyce Corneal Navigator Screening Program aiding in the detection of nine corneal conditions; Corneal Aberrometry Software; NAVIS included.
OCULUS Inc.	Easygraph	± 0.20D	1 second	22; high-res CCD camera	22,000	40 mm	automatic focusing; manual override	Exclusive "REAL" keratometer built in; image data transferred digitally to computer; Windows-compatible software; 3-D; overview image; Fourier analysis; height & refractive maps std.; keratoconus detection software; Zernike analysis software & contact lens fitting software opt.; contact lens software includes 35,000 lens database & fluor. image-simulation; ortho-k software also available. OxiMap Software shows the "breathability" of the contact lens.
OCULUS Inc.	Keratograph 5M	± 0.10D	1 second	22; high-res CCD color camera	22,000	80 mm For other exams, the working distance can be different	automatic focusing; manual override	The Keratograph 5M is an advanced corneal topographer with a built-in real keratometer & a color camera optimized for external imaging. Unique features include examining the meibomian glands, non-invasive tear film break-up time & the tear meniscus height measurement & assessing the lipid layer. It is compatible with most EMR systems. Standard: Topography, Keratometry, TF-Scan, Fourier analysis, Height & Refractive maps, Contact Lens Fitting, Keratoconus detection & Zernike analysis. Optional software: Meibo-Scan, Pupillometry, OxiMap®, Imaging.
OCULUS Inc.	Keratograph 4	± 0.10D	1 second	22; high-res CCD camera	22,000	80 mm	automatic focusing; manual override	The Keratograph 4 is a reliable corneal topographer with a built-in real keratometer. It measures 22,000 points & is compatible with most EMR systems. Standard: Topography, Keratometry, Fourier analysis, Height & Refractive maps, Contact Lens Fitting, Keratoconus detection & Zernike analysis. Optional software: Non-invasive Keratograph Break Up Time, Pupillometry, OxiMap®, Imaging.
OCULUS Inc.	Pentacam®	± 0.25D	max. 2 seconds	no rings; Scheimpflug camera	25,000 true elevation pts.	80 mm	automatic focusing; manual override	The Pentacam® is a rotating Scheimpflug camera system for anterior segment analysis. It measures topography & elevation of the anterior & posterior corneal surface & corneal thickness. Basic software includes Overview display, Indices report, 1 Large Map, 4 Maps Refractive, Scheimpflug Image Overview, Virtual Eye, Tomography, Iris Image, Topometric & Comparison displays. Optional software: Refractive Software Package, Cataract Software Package, Contact Lens Fitting, the Holladay Report & Belin/Ambrosio Enhanced Ectasia software.

CORNEAL TOPOGRAPHERS

COMPANY	MODEL	RESOLUTION	PROCESSING TIME	NUMBER OF RINGS	NUMBER OF DATA POINTS	WORKING DISTANCE	FOCUSING MECHANISM	ADDITIONAL FEATURES
OCULUS Inc.	Pentacam® HR (High Resolution)	+/- 0.1D	1 second	no rings; Scheimpflug camera	138,000 true elevation pts.	80 mm	automatic focusing; manual override	The Pentacam® HR is a high-resolution rotating Scheimpflug camera system for anterior segment analysis. It provides crisp images of cornea, iris & crystalline lens. It measures the anterior & posterior corneal topography & elevation, total corneal refractive power, corneal power distribution, automatic chamber angle measurement in 360º, chamber depth & volume, HWTW, corneal and crystalline lens optical opacities. Standard software: Belin/Ambrosio Enhanced Ectasia, Holladay Report, Contact Lens Fitting, Cataract package & Refractive package.
Medmont Instruments	Medmont E300	< 1 micron	< 1 second	32	15120	65 mm	joystick with auto capture	The Medmont E300 is operated by a separate laptop, making networking & EMR integration simple. An auto-capture system provides quick & accurate capture of 4 simultaneous images. Using the "Composite Eye" function, 100% of the visible iris diameter can be imaged & analyzed. The software includes a wide variety of analysis & disease detection options & the contact lens module allows for the fitting of both corneal GP and scleral lenses.
S4OPTIK	MODI 2	+/- 0.03D	<3 seconds	24	6,144	56 mm	focusing mechanism joystick	MODI corneal topography system presents images as curvature, elevation, Zernike or power maps for advanced analysis. Change and difference maps provided. The large cone design makes the patient experience positive while maintaining high resolution measurements. Intuitive software makes results easy to interpret and all relevant data is measured including corneal spherical aberration.
Tomey USA	TMS-4	800 x 600 pixels	3 seconds	25 & 31	8,000	70 mm	joystick	Provides spherical equivalent, regular astigmatism, asymmetry & higher-order alignment; provides refractive information w/3-mm & 6-mm diameter range; keratoconus screening. Klyce statistics; enhanced height & height change maps; contact lens software and dry eye software included. Placido cone.
Topcon Medical Systems	CA-200F	+/- 0.01; 1 micron	< 10 sec.	24	10,000 measured points	80 mm	auto focus and auto alignment	Complete corneal surface analysis including image & video capture of fluorescein staining; on board state-of-the art PC allows for complete stand-alone operation; 8-inch touch screen panel; WiFi communication with PC-based software; automatic "best image capture"; automatic pupil recognition; Keratoconus Index; additional modules available including contact lens fitting and Zernike analysis.
Topcon Medical Systems	KR-8000PA	n/a	n/a	10	3,600	85 mm	automatic alignment w/manual override	Tri-functional autorefractor/keratometer w/corneal mapping & contact lens fluorescein simulation fitting program; interfaces w/Topcon computerized lensmeters and CV-5000S vision tester.
Topcon Medical Systems	KR-1W	high resolution	simultaneous with other functions, 100 milliseconds	19, near infrared illumination	6,840	80 mm	auto-focus, auto-alignment with manual override	The KR-1W combines 5 simultaneous measures: Hartmann-Shack wavefront aberrometry, near-infrared corneal topography, keratometry, pupillometry and auto-refraction. Dioptic corneal measurement range is 33.75 D to 67.5 D (0.25 D steps) up to a 9.2-mm area, including 1-mm apical data. Multiple corneal topography maps include: Mire Image, axial power, instantaneous (refractive) power, Sim-K and other corneal indices, spherical aberration, IOL selection map and numerous other wavefront aberrometry features. KR-1W Viewer software available.
Tracey Technologies	iTrace Workstation Visual Functional Analyzer	.01 diopter/ 1 micron	instant	25	9,000	20 mm	laser vertex	5-in-1 functionality including ray tracing wavefront aberrometry, multi-zone auto refraction, auto-keratometry, pupillometry; topography enabled by EyeSys Vision; provides corneal spherical aberration measurement for IOL selection; measures lenticular aberrations; keratoconus screening; asphericity index; computer-independent.
Ziemer Ophthalmic Systems	GALILEI G4™ Dual Scheimpflug Analyzer	+/- 0.1D	1-2 seconds	20	>122,000	58 mm	computer-aided 3D alignment	GALILEI G4™ is the only device on the market that combines a Placido-Disk system with a dual-rotating Scheimpflug Camera with eye motion compensation that merges all data from its two subsystems into a single dataset to generate high-precision maps of anterior & posterior corneal surfaces & of the anterior segment. Features Ray Tracing for high-precision Total Corneal Power-based calculations of IOL Power in post-refractive eyes, corneal wavefront analysis & advanced keratoconus diagnostics.

CORNEAL BIOMECHANICS

COMPANY	MODEL	TYPE	RANGE	FOCUSING MECHANISM	PORTABILITY	ADDITIONAL FEATURES
Reichert Technologies	Ocular Response Analyzer®	noncontact	0 to 60 mmHg	automatic	tabletop/instrument stand 30 lbs.	Measures IOP & Corneal Hysteresis (CH), the world's first indicator of corneal biomechanics & IOPcc (corneal compensated IOP), which is less affected by corneal properties than traditional methods of tonometry. Compact, all-in-one housing optimizes space utilization; Innovative left/right mounting,180° rotating, tilt screen; Easy to use, intuitive touch-screen user interface; Internal CPU, on-board operating system, and 160GB hard drive ensure fast and trouble-free operation. Optional motorized chin-rest.

BINOCULAR INDIRECTS

COMPANY	MODEL	TYPE	SPOT SIZE	FILTERS	POWER SOURCE	PORTABILITY	ADDITIONAL FEATURES
AIT Industries (Manufactured by Viewlight)	VIO-20	headmount	small, medium, large	green & blue	wired	no	Variable intensity halogen illumination; sealed optical system; clear view for natural obsevation
AIT Industries (Manufactured by Viewlight)	VIO-30	headmount	small, medium, large	green & blue	wireless	yes, rechargeable battery pack	High/low LED illumination, interruptible distance adjustable from 50-75mm; sealed optical system
AIT Industries (Manufactured by Viewlight)	VIO-40	headmount	small, medium, large	green & blue	wired	no	Variable intensity halogen illumination (adjustable on headset), interruptible distance adjustable from 50-75mm; sealed optical system
HEINE	SIGMA 150	S-Frame Spectacle	small & large	integrated red free; cobalt, yellow and diffuser available	mPACK lithium ion portable power source	yes, with mPACK portable power source	Mounted to lightweight, fully adjustable S-Frame — weighs a mere 5.2 oz. Variable pupil scope (for optimized views in pupils 10mm-2mm) with no presets; carbon fiber frame for durability. Xenon halogen bulb offers a CRI Rating of 98.5 for accurate color rendering. 100% dust-proof. Guaranteed for life.
HEINE	SIGMA 150 K	headmount	small & large	integrated red free; cobalt, yellow and diffuser available	wired to stand, desktop, wall-mount and mPACK portable power source	yes, with mPACK portable power source	Variable pupil scope (for optimized views in pupils 10mm-2mm) with no presets; carbon fiber frame for durability. Xenon halogen bulb offers a CRI Rating of 98.5 for accurate color rendering. 100% dust-proof. Guaranteed for life.
HEINE	SIGMA 150 KC	headmount	small & large	integrated red free; cobalt, yellow and diffuser available	wired to stand, desktop, wall-mount and mPACK portable power source	yes, with mPACK portable power source	Variable pupil scope (for optimized views in pupils 10mm-2mm) with no presets; carbon fiber frame for durability. Xenon halogen bulb offers a CRI Rating of 98.5 for accurate color rendering. 100% dust-proof. Guaranteed for life.
HEINE	OMEGA 2C	headmount	large	no	wall mount and mPACK Portable Power Pack	yes, with mPACK Portable Power Pack	The only BIO on the market designed specifically for video use. Specially designed optics. The only system that allows for camera upgrades. Optics mounted to an aluminum frame, and the housing is 100% dustproof. Available with digital image capabilities and software.
HEINE	OMEGA 500	headmount	small, medium & large independent of small pupil for stereo views of the periphery	integrated red-free, cobalt blue, amber and diffuser	wired to stand, wired to wall, wall-mounted, mPACK Li-Ion Portable Power Pack, convert to UNPLUGGED later	yes, with mPACK Portable Power Pack	Variable Pupil Scope (for optimized views in pupils 10mm-1mm) with no presets; all metal & glass optics mounted to aluminum chassis for durability. All features fully integrated. Available with Xenon or LED illumination, each with 90+ CRI Rating for accurate color rendering.100% dust-proof guaranteed for life.
HEINE	OMEGA 500 Unplugged	headmount	small, medium & large independent of small pupil for stereo views of the periphery	integrated red-free and cobalt blue; amber and diffuser	UNPLUGGED Li-Pol headband mounted battery with battery level indicator. With exclusive mobile charger transformer or wall-mounted charger.	yes, Unplugged allows freedom to work without cables and cords	Variable Pupil Scope (for optimized views in pupils 10mm-1mm) with no presets; all metal & glass optics mounted to aluminum chassis for durability. All features fully integrated. Available with Xenon or LED illumination, each with 90+ CRI Rating for accurate color. rendering.100% dust-proof guaranteed for life.
HEINE	OMEGA 200	headmount	small, medium & large	integrated red-free and cobalt blue; yellow available as substitution	wired to stand, desktop, wall-mount and mPACK Portable Power Pack	yes, with mPACK Portable Power Pack	The choice for teaching and operating rooms. Integrated teaching mirrors on the left and right. Variable pupil scope (for optimized views in pupils 8mm-1.2mm); aluminum chassis mounting for all optical components for durability.
Keeler Instruments	All Pupil II Wired	headmount with exclusive headband dimmer control	small; medium; large	built-in UV/safety filter; red free; diffuser	Smart Pack Convertible (mobile, wall or desk) or Wall Pack	yes, with Smart Pack	Halogen or LED illumination. Lightweight; less than 500 grams; easy to use; brightest; PD range 47 mm-75 mm.

BINOCULAR INDIRECTS

COMPANY	MODEL	TYPE	SPOT SIZE	FILTERS	POWER SOURCE	PORTABILITY	ADDITIONAL FEATURES
Keeler Instruments	All Pupil II Convertible Slimline Wireless	headmount with exclusive headband dimmer control	small, medium, large	built-in UV/safety filter; red-free; diffuser	2nd generation slimline wireless system with 2 lithium ion batteries and charging/ docking station	yes, 2 lithium ion polymer batteries	Convertible illumination from natural LED to Xenon standard. Lightweight; less than 500 grams; easy to use; brightest. PD range 47 mm-75 mm.
Keeler Instruments	Fison Wired	headmount	large	safety filter; red-free; cobalt blue	desk or wall-mountable transformer	no	the standard
Keeler Instruments	Spectra Plus	exclusive sport frame, available in red, light blue dark blue, black	large	red-free; cobalt blue	lithium ion battery	yes, lithium ion battery	LED illumination — first indirect to use LED illumination. Lightweight (less than 500 grams); easy to use, can be worn over glasses; PD range 48 mm-76 mm.
Keeler Instruments	Vantage Plus Convertible Wired	headmount with exclusive headband dimmer control	Intelligent optical system ensures best stereopsis on any settings – small pupil, medium and large	coated UV/safety filtered, optics; red-free, cobalt blue and diffuser	3 options in 1: Smart Pack Convertible (mobile, wall or desk) or Wall Pack	yes, with Smart Pack	Convertible illumination from natural LED to Xenon standard. IOS optics with single-step aperture spot size & convergence to maximum 3D stereopsis; Hi-Mag Retina Lens to improve patient care and enhance visualization of the fundus. PD range 52 mm-76 mm.
Keeler Instruments	Vantage Plus Convertible Slimline Wireless	headmount with exclusive headband dimmer control	Intelligent optical system ensures best stereopsis on any settings – small pupil, medium and large	coated UV/safety filtered, optics; red-free, cobalt blue and diffuser	2nd generation slimline wireless system with 2 lithium ion batteries and charging/docking station	yes, 2 lithium ion polymer batteries	Convertible illumination from natural LED to Xenon standard. IOS optics with single-step aperture spot size & convergence to maximum 3D stereopsis; Hi-Mag Retina Lens to improve patient care and enhance visualization of the fundus. PD range 52 mm-76 mm.
Keeler Instruments	Vantage Plus Digital Slimline Wireless	headmount with USB interface	Intelligent optical system ensures best stereopsis on any settings – small pupil, medium and large	coated UV/safety filtered optics, red-free, cobalt blue and diffuser	2nd generation slimline wireless system with 2 lithium batteries and charging/docking station rechargeable battery	yes, first and only digital ophthalmoscope with USB interface	First digital inocular indirect system, Not OLD Analog. Utilize Vantage Plus LED Digital Wireless in your office, operating room, and teaching facility or anywhere you want to capture digital images.
Tech Optics International	Task-Vision	headmount, frame or frameless	small, medium, large	orange	optional Bright Light Star LED 35k lithium rechargeable battery pack	yes, wirless lithium battery pack	Can be worn over prescription, safety or laser safety glasse; lightweight.
Tech Optics International	Task-Vision #227, 229, 330, 350	Distance telescopic spectacles, frame or frameless	monoculaly or binocularly	clear coated	optional Bright Star LED 35k LUX - lithium rechargeable battery	yes, wireless lithium battery pack	Can be worn over prescription, safety or laser safety glasses or as spectacles; lightweight.
Tech Optics International	Task Vision LED Headlight & Waterproof Telescope Loupe				LED 70k LUX		Can be worn over prescription, safety or laser safety glasses.
Tech Optics International	Task Vision PLH80	LED Headlight	20 - 100 mm @ 500 mm adjustable	n/a	rechargeable Polymer Li-ion cells & battery adapter input AC plug	yes, includes travel case	This system can be worn over prescription, safety or laser safety glasses. The LED Headlight is extremely bright 70,000 LUX and and with fully adjustable Flip Up/Down and forward/ backward. Full variable intensity control & vertical direction of the LED light.
Tech Optics International	Task Vision PLH802.5X, PLH803.0X PLH803.5X PLH804.0X	Galilean	90 mm field of view	n/a	yes, part of PLH80	yes, includes travel case	Attach to LED Headlight #PLH80. Telescope loupes are dust resistant and waterproof to ensure ease of cleaning/disinfecting. High resolution, fully adjustable viewing angle, flip up/down and forward/backward on the headband system.
Tech Optics International	PLW2.5X PLW3.5X	Galilean	90 mm field of view	n/a	yes, optional #PLH60CO	yes, includes travel case	Vision Waterproof Loupes on Safety glasses meets ANSI Z-87.1+ safety requirements and are waterproof to ensure ease of cleaning/disinfecting. 2.5x or 3.5x
Tech Optics International	PLW25X PLW35X	Galilean	90 mm field of view	n/a	yes, optional #PLH60CO	yes, includes travel case	Vision Waterproof Loupe on Platinum Frame includes side shields an can accept an Rx. Also waterproof to ensure ease of cleaning/disinfecting. 2.5x or 3.5x
Tech Optics International	PL25 PL35	Galilean	90 mm field of view	n/a	yes, optional #PLH60CO	yes, includes travel case	Fit Over Loupe – With multi-function in mind, the frame style (Fit Over) is exactly what it does. Like Fit Over Sunglasses, the Lana Fit Over Loupe can be worn over prescription, safety or laser safety glasses. No need for multiple pairs of glasses or new loupes every time your prescription changes.
Tech Optics	PLH60co	LED clip-on or slide clip	80 mm @ 420 mm	n/a	rechargeable Polymer Li-ion cells & battery adapter input AC plug	yes, includes travel case	Mini Size universal LED Clip on Headlight. 50,000 lux@250mm, fully variable intensity control 0-100%, Purely white light,5 hours Operation time. 11W powerful white LED. Includes clip on or slide clop attachment for loupe.

RETINAL CAMERAS

COMPANY	MODEL	TYPE	FIELD OF VIEW	ANGIO-GRAPHY	NUMBER/TYPE OF PORTS	FLASH STIMULUS	VIDEO CAPACITY	ADDITIONAL FEATURES
Canon Healthcare Solutions Division	CR-2	non-mydriatic retinal camera	45° optical with 2x digital magnification	not available	1 USB	white LED with auto exposure available	3.0 inch LCD monitor on dedicated EOS digital camera body	Small and compact design, full 45° retinal images, 2x magnification, color photography, digital red-free photography, digital cobalt photography, white LED flash, low flash intensity, moveable internal fixation dot, anterior lens compensator for external photos, omni-directional joystick, optional imageSPECTRUM software, DICOM software and hard shell travel case. 18 MP dedicated EOS Camera for CR-2.
Canon Healthcare Solutions Division	CR-2 PLUS	non-mydriatic retinal camera	45° optical with 2x digital magnification	not available	1 USB	observation: infrared photography: xenon tube	3.0 inch LCD monitor on dedicated EOS digital camera body	18 MP, Fundus Autofluorescence (FAF) and color photography with digital red-free and digital cobalt photography, small pupil mode (3.3 mm), automatic exposure of observation and flash level, low flash intensity, motorized chin rest, movable chin rest, movable internal fixation dot, anterior lens compensator for external photos, omni-directional joystick, optional imageSPECTRUM software, Retinal Imaging Control Software (RICS) DICOM software, small compact design, optional hard shell travel case.
Canon Healthcare Solutions Division	CF-1	mydriatic digital fundus camera	50°	yes	digital	n/a	n/a	Small-diameter mode; color photography; red free photography; fluorescein angiography (FA); proprietary control software outputs retinal imaging information into optional imageSPECTRUM software; 18 MP EOS digital SLR camera back; 2X magnification and DICOM software.
Canon Healthcare Solutions Division	CX-1	hybrid mydriatic/non-mydriatic digital retinal camera	50° (mydriatic) 45° (non-myrdriatic)	yes	digital	n/a	n/a	One touch selection between mydriatic and non-mydriatic mode; mydriatic and non-mydriatic fundus autofluorescence (FAF) photography modes (color, red-free, fluorescein angiography, FAF, cobalt); 18 MP dedicated digital camera by EOS technology; 2X magnification; optional imageSPECTRUM software and DICOM software.
Carl Zeiss Meditec	FF450*Plus*	full-feature fundus camera with color, red free, FA, ICG and optional fundus-autofluorescence, Designed for digital interface	50°, 30°, 20°	yes	2 main interface ports; 4 digital, video and/or film cameras possible simultaneously	360 W/s Max	yes	High resolution ZEISS optics. Each angle of view has its own “telescope” lens to optimize image quality at all three magnifications; upper camera port optimized for digital interface. Fully integrated with VISUPAC Digital Imaging and Archive Management System.
Carl Zeiss Meditec	VISUPAC Digital Imaging and Archive Management System	digital imaging and archive management system	50°, 30°, 20°	yes	3 digital sensors in in multiple configurations; USB and ethernet ports	n/a	import, store & play video	Digital Image Capture System based on relational database for complete image management, documentation, progression viewing and image enhancement. Various high resolution digital sensor options and combinations. Integrated report generator. Network ready and DICOM conform. VISUPAC comes with the onboard functionality to connect to FORUM Data Management System. FORUM allows real-time viewing of reports or images from suppported networked ZEISS and non-ZEISS instruments. FORUM supports bi-directional workflow for supported DICOM enabled devices, reducing charting errors and increasing patient throughput.
Carl Zeiss Meditec	VISUCAM*PRO NM*	non-mydriatic digital fundus camera with color, red free, red and blue	45°, 30°	no	internal digital sensor; USB and ethernet ports	Xenon flash lamp; 16 steps	no	All-integrated design with onboard database system. Auto-flash, auto-focus, 3.3-mm small pupil mode, various preset internal fixation points and stereo capture mode. Large LCD monitor for patient management; alignment, capture and review. Network ready and DICOM conform. Telemedicine ready. VISUCAM comes with the onboard functionality to connect to FORUM Data Management system. FORUM allows real-time viewing of reports or images from supported networked ZEISS and non-ZEISS instruments. FORUM supports bi-directional workflow for supported DICOM enabled devices, reducing charting errors and increasing patient throughput.

RETINAL CAMERAS

COMPANY	MODEL	TYPE	FIELD OF VIEW	ANGIO-GRAPHY	NUMBER/TYPE OF PORTS	FLASH STIMULUS	VIDEO CAPACITY	ADDITIONAL FEATURES
Carl Zeiss Meditec	VISUCAM[NM/FA]	non-mydriatic/mydriatic digital fundus camera for color, red free, red, blue and FA and optional ICGA and FAF	45°, 30°	yes	internal digital sensor; USB and ethernet ports	Xenon flash lamp; 20 steps depending on mode	no	All-integrated design with onboard database system. Auto-flash, auto-focus, 3.3-mm small pupil mode, various preset internal fixation points and stereo capture mode. Large LCD monitor for patient management; alignment, capture and review. Easily upgradable to fundus-autofluorescence and indocyanine green angiography. Network ready and DICOM conform. Telemedicine ready. VISUCAM comes with the onboard functionality to connect to FORUM Data Management system. FORUM allows real-time viewing of reports or images from supported, networked ZEISS and non-ZEISS instruments. FORUM supports bi-directional workflow for supported DICOM enabled devices, reducing charting errors and increasing patient throughput.
Clarity Medical Systems	RetCam 3	digital: premature infant, children & adult anterior chamber	30°, 80°, 120°, 130°	FA option	2 USB 2.0; 1 primary; 1 Ethernet port	no flash	yes	Fully integrated imaging system that delivers the next generation of ophthalmic visualization, photo documentation and ease of use with a new user interface, redesigned cart and ergonomic hand piece. This advanced system incorporates DICOM compatibility and image annotation feature. Brilliant, full-color images can be captured for immediate assessment of the retina and anterior chamber; digital images can also be sent electronically to the ophthalmologist for immediate evaluation and longitudinal tracking over time. The RetCam 3 Digital Imaging System makes it possible to facilitate ophthalmic care in the hospital NICU, PICU, operating room and newborn unit.
Clarity Medical Systems	RetCam Shuttle	digital: premature infant, children & adult anterior chamber	30°, 80°, 120° 130°	no	2 USB 2.0; 1 primary; 1 Ethernet port	no flash	yes	RetCam Shuttle enables ophthalmic imaging with a convenient, mobile system that can be easily maneuvered into tight spaces and transported to affiliate hospitals. The Shuttle system enables on-site or remote documentation of the pediatric retina and pediatric or adult anterior chamber. Network capability allows transfer of images to any networked system or to a physician for remote evaluation.
CenterVue, Inc.	DRS	Non-mydriatic digital fundus camera	45° x 40°	no	4 (1 wired Ethernet, 1 wireless Ethernet, 2 USB)	auto-adjusted soft LED flash illumination	live video to capture external imaging	Small footprint, high-resolution images, low operator skill required at an affordable price. Fully automatic operation. Auto-alignment, auto flash, autofocus. Stereo nerve head imaging, external imaging, seven fields of view. Internal computer included. Software updates free. Nothing else to buy. 1-year warranty. Internet ready – view images on the cloud, in your office, on an iPad or smartphone.
Heidelberg Engineering	SPECTRALIS HRA	confocal scanning laser	30x30 °; up to 150° with optional lens	yes; high-speed video angiography	firewire and USB	n/a	yes; high-speed video	The SPECTRALIS® HRA is optimized to match the peak excitation of fluorescein & ICG, and can image both dyes simultaneously, providing a picture of both retinal & choroidal circulation at the same time. Not only are the images clearer & more detailed than traditional fundus cameras, but rapid scan speeds enable dynamic imaging, capturing the subtleties of partial blockages of blood flow.
ii-Optics	EasyScan	Zero-dilation (through 2 mm) confocal scanning laser	macula and peripheral retina nasal and central, up to 60° field angle	no	1 USB	n/a	movie loop	Fast, easy and affordable high resolution (SLO) retinal imaging. True zero-dilation from 2 mm pupils, patient-friendly & time-saving. Other benefits include early diagnosis of retinal conditions, better contrast than fundus cameras, & better penetration of media opacities such as cataract. Live viewing of the retina. Also very suitable for large volumes, telediagnosis & mobile practices. Weighs just under 7g, & opens up high-end eye care to patients all over the world. www.i-optics.com
Kowa Optimed Inc.	Genesis D Handheld Fundus Camera	joystick w/auto-firing and infrared measuring	30° horizontal	yes	1 primary port; USB 2.0 digital interface	n/a	no still; digital only	Compact flash memory; LCD monitor for picture review; color mydriatic photography; indirect lens holder accessory; VK-2 digital imaging system; EMR connectivity; DICOM; JPG and BMP export for telemedicine; connection to portable notebook computer as well as desktop.
Kowa Optimed Inc.	Genesis Df Handheld Fundus Camera	joystick w/auto-firing and infrared measuring	30° horizontal	yes	1 primary port; USB 2.0 digital interface	n/a	no still; digital only	Fluorescein angiography (FA) photography; compact flash memory; LCD monitor for picture review; color mydriatic photography; indirect lens holder accessory; VK-2 digital imaging system; EMR connectivity; DICOM; JPG and BMP export for telemedicine; connection to portable notebook computer as well as desktop.
Kowa Optimed Inc.	nonMyd 7 Fundus Camera	compact; tabletop; nonmydriatic color	nonmydriatic 45°/20°	yes	1 primary port; 1-6.1 mega pixel camera back w/USB 2.0 digital interface	n/a	no still; digital only	LCD monitor for alignment and focusing; small-pupil mode; preset flash exposures; nonmydriatic color photography; camera has internal working distance and focusing dots; with VK-2 digital imaging system; EMR connectivity; DICOM; JPG and BMP export for telemedicine; offers connections for both portable notebook and desktop computers.
Kowa Optimed Inc.	nonMyd Alpha-D III Retinal Camera	compact; tabletop; nonmydriatic color	nonmydriatic 45°/30°	yes	1 primary port; 1 USB 2.0 digital interface	n/a	no still; digital only	LCD monitor for alignment and focusing; small-pupil mode; preset flash exposures; color photography; nonmydriatic color photography; fluorescein angiography (FA) photography; red-free photography; camera has internal working distance and focusing dots; VK-2 digital imaging system; EMR connectivity; DICOM; JPS and BMP export for telemedicine. Ideal for telemedicine applications as it offers connections to both portable notebook and desktop computers.
Kowa Optimed Inc.	VX-10(a) Two-in-One Fundus Camera	compact tabletop; mydriatic; nonmydriatic color/FA	mydriatic: 50°/30° nonmydriatic: 45°/27°	yes	2 primary ports; Upper = digital interface/35 mm/ Polaroid	n/a	no still; digital only	LCD monitor for alignment and focusing; small-pupil mode; preset flash exposures; color photography; nonmydriatic color photography; fluorescein angiography (FA) photography; red-free photography; camera has internal working distance and focusing dots; VK-2 digital imaging system; EMR connectivity; DICOM; JPG and BMP export for telemedicine.
Kowa Optimed Inc.	VX-20	myd/non myd	nonmyd mode 45º/27º myd 50º/30º		USB or LAN			Automatic Mosaic. Photography modes: Color/RF/ FA/FAF. Electronic Chin Rest; LCD monitor for alignment & focusing; small-pupil mode; preset flash exposures; internal working distance & focusing dots; VK-2 digital imaging system; EMR connectivity DICOM; JPS & BMP export for telemedicine. Great because it offers connections to both portable notebook & desktop computers
Kowa Optimed Inc.	nonmyd WX3D	simultaneous stereo; digital; nonmyd color; compact; table top	nonmydriatic 45° stereo 34° (20x27)	no	1 primary port; 12 megapixel digital camera back w/USB 2.0 interface	n/a	n/a	LCD monitor for alignment and focusing; small-pupil mode; preset flash exposures; nonmydriatic color photography; camera has internal working distance and focusing dots; with VK-2 digital imaging system; EMR connectivity; DICOM; JPG and BMP export for telemedicine; offers connections for both portable notebook and desktop computers. Automatic Mosaic merge function; 45° and simultaneous stereo; preset internal fixation – central, disc macula plus 8 other positions
Marco - Optometry Nidek - Ophthalmology	AFC-330	nonmydriatic automated fundus camera	45° (33º in small-pupil photography mode)	no	LAN connection with JPEG & XML output, USB 2.0	17 levels from F1 (F4.0 + 0.8 EV) to F17 (F16 + 0.8 EV) 0.5 EV increments		Auto features can be set as fully automatic, semi-automatic, or fully manual modes. Auto Align & Auto Track detect & follow patient movements in all three axes. Autofocus allows maximum ease of use. Auto shot acquires the photo when the optimal conditions are met. Auto Stereo mode for precise stereo pairs. Easy-to-use 8.4" tilting, color touchscreen. Fully networkable data management system connects seamlessly with most EMR/EHR vendors.
Nidek, Inc.	DS-10, VersaCam	non-mydriatic handheld digital medical scope	40º (spec) 35º (measure)	no	USB interface		yes, jpeg/H.264 (avi)	High quality digital imaging, easy & quick image filing, simple & easy operation, lightweight & compact body, wide range of interchangeable lens options (for multidisciplinary uses), 3.5 full color LCD monitor, optional footswitch.
Nidek, Inc.	F-10	retinal imaging digital ophthalmoscope	40º (24 x 32) 60° (36 x 48) with non contact, widefield lens	yes, FA & IA	export function automatic image transfers to PC	red laser internal 2 x LED-guided fixation	Dual display mode Display image size & frequency 512 x 720 (x2) - 3Hz 512 x 600 (x2) - 5 Hz 512 x 480 (x2) - 6 Hz	4-Wavelength confocal laser imaging featuring a blue laser for auto fluorescence. Streamlining video at 27 fps allows feeder vessel identification for advanced diagnostics. Color fundus imaging improves diagnosis includes split-screen video, which facilitates FA/ICG cocktail injections.
Sonomed Escalon	E5	digital conversion of mydriatic fundus camera	any	yes	n/a	n/a	n/a	Digital imaging for most mydriatic fundus camera; 5 MP CCR sensor; calibrated measurement tools; Auto Eye-Map montage feature; DICOM-compliant; integrates with PACS and OphthaVision AXIS for side-by-side review of images from different modalities.
Sonomed Escalon	E6 Single	digital conversion of mydriatic fundus camera	any	yes	n/a	n/a	n/a	Digital imaging for most mydriatic fundus camera; 6 MP CCR sensor for excellent image quality in a single cameraback; calibrated measurement tools; Auto Eye-Map montage feature; DICOM-compliant; integrates with PACS and OphthaVision AXIS for side-by-side review of images from different modalities.
Sonomed Escalon	E6 Dual	digital conversion of mydriatic fundus camera	any	yes	n/a	n/a	n/a	Digital imaging for most mydriatic fundus camera; Dual 6MP CCR sensors dedicated for color and monochromatic to provide the highest quality color images and angiograms; calibrated measurement tools; Auto Eye-Map montage feature; DICOM-compliant; integrates with PACS and OphthaVision AXIS for side-by-side review of images from different modalities.
Sonomed Escalon	E11	digital conversion of mydriatic fundus camera	any	yes	n/a	n/a	n/a	Digital imaging for most mydriatic fundus camera; 11 MP CCR sensor for specialized settings; calibrated measurement tools; Auto Eye-Map montage feature; DICOM-compliant; integrates with PACS and OphthaVision AXIS for side-by-side review of images from different modalities.
Topcon Medical Systems	TRC-NW8	nonmydriatic	45°	no	1 std: digital CCD	6 W/s to 27 W/s	yes	Color fundus with unique red-free imaging. High quality 16.2 megapixel images with Nikon digital camera. Auto focus, auto capture, auto small pupil detector, stereo mode, and Auto Mosaic™. Can be combined with Topcon's IMAGEnet™ Lite and Synergy Systems for image management and networking. Compatible with today's most popular EMR systems.
Topcon Medical Systems	TRC-NW300	nonmydriatic	45°	no	digital CCD built-in	3.3 W/s to 13 W/s	yes	8 megapixel built-in capture device; auto focus, auto exposure and auto shoot; direct printout to digital printer; can be combined with Topcon's IMAGEnet™ Lite and Synergy Systems for image management and networking. Compatible with today's most popular EMR systems.
Topcon Medical Systems	TRC-NW8F	non-mydriatic	45°	yes	4 USB; 1 standard 35 mm	0.7 to 63 W/s	no	Auto focus, auto capture mydriatic/non mydriatic retinal camera with color, red free and fluorescein angiography capabilities. Auto small pupil detection. 16.2 megapixel upgradable sensor. Stereo image capability, nine internal fixation targets that facilitate the composing of wide angle views of the retina. Seamlessly communicates with the IMAGEnet capture system and Synergy data management system. Compatible with today's most popular EMRs.
Topcon Medical Systems	TRC-NW7SF MKII	digital hybrid mydriatic & non-mydriatic	30° 45° 50°	yes	1	35 steps from no flash to 300 W/s	no	Color, red-free and fluorescein capabilities in one device. Medical grade imaging sensor provides consistent color rendition; swing and tilt movement allows for precise peripheral capture; capture images through undilated pupils as small as 3mm (in color non-myd mode only); intuitive to use with Topcon's user-friendly, ergonomic camera design; seamless integration with Topcon's Synergy Ophthalmic Data Management System.

RETINAL CAMERAS

COMPANY	MODEL	TYPE	FIELD OF VIEW	ANGIO-GRAPHY	NUMBER/TYPE OF PORTS	FLASH STIMULUS	VIDEO CAPACITY	ADDITIONAL FEATURES
Topcon Medical Systems	TRC-50DX / TRC-50DX ICG	digital/film mydriatic	20º 35º 50º	yes	2 standard 35 mm or digital CCD	12W to 300 W/s	yes	Digital-ready; can accept a variety of photo devices; color fundus, red-free, and fluorescein filters. Autofluorescence and ICG filters also included on TRC-50DX ICG. Touch-screen control panel; 21 flash settings; small pupil mode; can be connected to Topcon's IMAGEnet system.
Volk Optical Inc.	Pictor	handheld non-mydriatic digital retinal camera	45°	no	output to USB	white light with adjustable intensity	yes	Truly portable, handheld device weighing approximately 1lb. Excellent for in or out of office usage, pediatric use, telemedicine or any mobile application. Transports in a small briefcase. High resolution imagery, can store more than 1000 images that can be uploaded to any computer for review, patient records.

RETINAL SCANNERS

COMPANY	MODEL	TYPE OF LASER	FIELD OF VIEW	AREA OF RETINA ANALYZED	PRINTOUT DETAIL	ADDITIONAL FEATURES
Bioptigen, Inc.	HHP SDOCT, Adult Human	840 nm SLD, standard or broadband	2° x 2°-60° x 60°	Full retinal thickness and RNFL; contoured C-slices of retinal layers; vessel flow using Doppler	SDOCT image, study information	HHP SDOCT provides high-resolution, high-speed SDOCT imaging in a hand-held, robust, and easily transportable solution that is ideal for clinical, bedside, and operating room imaging. Advanced spectrometer design permits single-shot, falloff-mitigated imaging at 17 frames per second. Standard resolution approaches 4.5 µm in tissue and the broadband option affords < 3 µm ultra-high resolution imaging. Fully customizable scan geometry and density enable pathology-targeted imaging. Registration, averaging, and volume rendering ehance data display. On-screen calipers provide manual distance measurements. Open access to both raw and processed data. Optional accessories include the telecentric cornea bore, HHP microscope base, and chin-rest mounted scanner.
Bioptigen, Inc.	HHP SDOCT, Pediatric	840 nm SLD, standard or broadband	2° x 2°-70° x 70°	Full retinal thickness and RNFL; contoured C-slices of retinal layers; vessel flow using Doppler	SDOCT image, study information	HHP SDOCT provides high-resolution, high-speed SDOCT imaging in a hand-held, robust, and easily transportable solution that is uniquely designed for pediatric imaging. Custom imaging bore optics provide unparalleled resolution in premies, neonates, infants, toddlers, and children. Advanced spectrometer design permits single-shot, falloff-mitigated imaging at 17 frames per second for fast alignment and imaging in uncooperative patients. Standard resolution approaches 4.5 µm in tissue and the broadband option affords < 3 µm ultra-high resolution imaging. Fully customizable scan geometry and density enable pathology-targeted imaging. Open access to both raw and processed data. Optional accessories include the telecentric cornea bore, HHP microscope base, and chin-rest mounted scanner.
Bioptigen, Inc.	HHP SDOCT, Preclinical	840 nm SLD, standard or broadband	0.4° x 0.4°-50° x 50°	Contoured C-slices of retinal layers; vessel flow using Doppler	SDOCT image, study information	HHP SDOCT provides high-resolution, high-speed SDOCT imaging in a hand-held, robust, and easily transportable solution that is uniquely designed for preclinical research, enabling true bench-to-bedside imaging with one system. Optimized imaging optics are available for mouse (FOV given here, lateral resolution less than 3 µm), rat, and macaque. Uniquely designed small-animal imaging mount enables high throughput imaging of mouse and rat models with rapid, accurate alignment every time. All benefits of the HHP SDOCT Adult Retina system plus solutions for preclinical research. Optional accessories include mouse or rat bite bars for fine alignement and motion reduction, telecentric cornea bore, and HHP imaging base.
Carl Zeiss Meditec	Cirrus HD-OCT Model 5000	840 nm superluminescent diode	36° x 30°	Macula and retinal layers; segmented RPE & ILM layers; Optic Nerve Head & RNFL.	Macula cube scan provides: high resolution image; 3D layer & retinal thickness maps; 3D cube image; LSO & OCT fundus images. Comparison to normative data. Optic disc scan provides assessment of RNFL & ONH with comparison to normative data; GPA analysis compares RNFL thickness over time, indicating statistically significant change. Event & trend analysis. Enhanced 20x raster scan provides exquisite high definition B-scan images. Anterior segment imaging provides angle visualization & central corneal thickness measurement.	CIRRUS 5000 creates a SmartCube™ of millions of data points. FastTrac™ retinal tracking reduces eye motion artifacts & enables scans at the same location. New software analysis features can be used on previously acquired cubes. AutoCenter™ aligns peripapillary circle. Fovea Finder™ ensures registration & repeatability of macular thickness measurements. Enhanced HD Raster Scan uses Selective Pixel Profiling™ to display detailed images. Real-time viewing of reports/images from supported networked instruments — powered by FORUM® Data Management System.
Carl Zeiss Meditec	Cirrus HD-OCT Model 500	840 nm superluminescent diode	36° x 30°	Macula & retinal layers; segmented RPE & ILM layers; optic nerve head & RNFL.	Macula cube scan provides: high resolution image; 3D layer & retinal thickness maps; 3D cube image; Live OCT fundus image. Comparison to normative data. Optic disc scan provides assessment of RNFL & ONH with comparison to normative data; GPA analysis compares RNFL thickness over time, indicating statistically significant change. Event & trend analysis. Enhanced 20x raster scan provides exquisite high definition B-scan images. Anterior segment imaging provides angle visualization & central corneal thickness measurement.	Core HD-OCT functionality for retina, glaucoma & anterior segment using the same integrated design with a smaller budget in mind. Features Live OCT Fundus™ technology for the fundus image. Anterior segment imaging requires no add-on lens. Auto-center feature aligns peripapillary circle for RNFL analysis. Fovea Finder™ function ensures accurate registration & excellent repeatability of macular thickness measurements. Cirrus HD-OCT connects to the FORUM data management system, allowing real-time viewing of reports & images.
Carl Zeiss Meditec	Cirrus photo Model 800	840 nm superluminescent diode	36° x 30° 45º, 30º	Macula & retinal layers; segmented RPE & ILM layers; Optic Nerve Head & RNFL.	Data from single macula cube scan provides: high resolution cross-hair image; 3D layer map of ILM & RPE; 3D retinal thickness map; 3D cube image; live OCT fundus image with overlay of thickness map or slab. Optic disc san provides assessment of RNFL with comparison to normative data. Anterior segment imaging provides visualization of the angle & cornea.	A comprehensive imaging solution that adds the power of CIRRUS OCT with multi-modality fundus imaging including fluorescein & ICG angiography, color & fundus auto-fluorescence. FoveaFinder™ & AutoCenter™ automatically ensure that measurements are made in the correct locations to perfectly center the scans. Diversified normative databases for ONH, RNFL & macular thickness facilitate at-a-glance assessments. Enabling efficient cross-modality analysis, CIRRUS photo allows easy switching between fundus images registered with OCT scans & maps.
Carl Zeiss Meditec	Cirrus photo Model 600	840 nm superluminescent diode	36° x 30° 45º, 30º	Macula & retinal layers; segmented RPE & ILM layers; Optic Nerve Head & RNFL.	Data from single macula cube scan provides: high resolution cross-hair image; 3D layer map of ILM & RPE; 3D retinal thickness map; 3D cube image; live OCT fundus image with overlay of thickness map or slab. Optic disc san provides assessment of RNFL with comparison to normative data. Anterior segment imaging provides visualization of the angle & cornea.	A full mydriatic/non-mydriatic color camera & CIRRUS OCT technology in a single integrated & compact system with a fundus autofluorescence option. FoveaFinder™ & AutoCenter™ automatically ensure that measurements are made in the correct locations to perfectly center the scans. Diversified normative databases for ONH, RNFL & macular thickness facilitate at-a-glance assessments. Enabling efficient cross-modality analysis, CIRRUS photo allows easy switching between fundus images registered with OCT scans & maps.
Carl Zeiss Meditec	GDxPRO	780-798 nm GaAlAs laser diode	20° x 20°	nerve fiber layer	RNFL deviation map; thickness map; NFI score; TSNIT parameters; TSNIT graph; quality score; patient & practice information; single & serial analysis formats.	The simplest way to classify and manage the glaucoma patient with assessment of RNFL integrity. Operator independent; has intuitive printout; no dilation required; less sensitive to variations in disc size than other instruments. Ideally suited for those specializing in glaucoma or building a glaucoma practice. Small footprint. Portable. Live Fundus View and Auto Registration. Touch Screen, mouse or keyboard navigation. GDxPRO comes with the onboard functionality to connect to FORUM, allowing real-time viewing of reports and images.
Carl Zeiss Meditec	Stratus OCT	820 nm superluminescent diode	26° vertical x 20.5° horizontal	Macula and retinal layers, RNFL and optic nerve head.	Objective RNFL & retinal thickness; normative data comparison for RNFL & macula thickness; optic nerve head analysis w/disc, cup & rim measurements & ratios. GPA Advanced Serial Analysis for RNFL.	Provides direct cross-sectional images & retinal measurements; images & analyzes macular thickness, retinal nerve fiber layer & optic disc; normative data for RNFL & macula provide age-matched reference value for comparison w/normal population. GPA Advanced Serial Analysis identifies statistically significant change and rate of change to RNFL. Stratus OCT comes with the onboard functionality to connect to the FORUM Data Management system, allowing real-time viewing of reports or images.
Heidelberg Engineering, Inc.	HRT3 Cornea Module	Confocal scanning laser ophthalmoscope	400 µm x 400 µm	anterior segment & corneal layers; epithelium to endothelium	In-vivo histology & semi-automatic endothelial cell count analysis; live movie capture.	The Rostock Cornea Module adds confocal laser microscopy to the HRT system, enabling capture and review of finely detailed images of the cornea's cellular structure, from epithelium to endothelium.
Heidelberg Engineering, Inc.	SPECTRALIS® OCT	Confocal scanning laser ophthalmoscope	30°, 20°, 15°	retinal layers, RNFL, posterior pole	Displays infrared, fundus autofluorescence, OCT, posterior pole & RNFL analysis.	The SPECTRALIS® OCT is a unique ophthalmic diagnostic imaging device used primarily to examine the structures of the retina, macula, & optic nerve. It combines two technologies, confocal scanning laser ophthalmoscopy (cSLO) and spectral domain optical coherence tomography (SD-OCT).
Heidelberg Engineering, Inc.	SPECTRALIS® OCT with MultiColor	Confocal scanning laser ophthalmoscope	30°, 20°, 15°	retinal layers, RNFL, posterior pole	Displays infrared, fundus autofluorescence, OCT, posterior pole & RNFL analysis.	The MultiColor imaging capability simultaneously combines three laser wavelengths to produce high contrast MultiColor images highlighting structures at different depths within the retina. MultiColor imaging delivers detailed images even in difficult patients including those with cataracts or nystagmus.
Heidelberg Engineering, Inc.	SPECTRALIS® OCT^{PLUS}	Confocal scanning laser ophthalmoscope	55°, 35°, 30°, 25°, 20°, 15°; composite images up to 120°	retinal layers, RNFL, posterior pole & wide-angle fundus images	Displays infrared, fundus autofluorescence, OCT, posterior pole & RNFL analysis.	The SPECTRALIS® OCT^{PLUS} is a unique ophthalmic diagnostic imaging device used primarily to examine the structures of the retina, macula, & optic nerve. It combines two technologies, confocal scanning laser ophthalmoscopy (cSLO) and spectral domain optical coherence tomography (SD-OCT).
Heidelberg Engineering, Inc.	SPECTRALIS® OCT^{PLUS} with MultiColor	Confocal scanning laser ophthalmoscope	55°, 35°, 30°, 25°, 20°, 15°; composite images up to 120°	retinal layers, RNFL, posterior pole & wide-angle fundus images	Displays infrared, fundus autofluorescence, OCT, posterior pole & RNFL analysis.	The MultiColor imaging capability simultaneously combines three laser wavelengths to produce high contrast MultiColor images highlighting structures at different depths within the retina. MultiColor imaging delivers detailed images even in difficult patients including those with cataracts or nystagmus.
Heidelberg Engineering, Inc.	SPECTRALIS® HRA	Confocal scanning laser ophthalmoscope	55°, 35°, 30°, 25°, 20°, 15°, up to 150º with optional lens	posterior pole & wide-angle fundus images	Displays infrared, red-free, fundus autofluorescence, FA, ICGA images.	The SPECTRALIS® HRA is optimized to match the peak excitation of fluorescein & CG, and can image both dyes simultaneously, providing a picture of both retinal & choroidal circulation at the same time. Not only are the images clearer & more detailed than traditional fundus cameras, but rapid scan speeds enable dynamic imaging, capturing the subtleties of partial blockages of blood flow.
Heidelberg Engineering, Inc.	SPECTRALIS® HRA with MultiColor	Confocal scanning laser ophthalmoscope	55°, 35°, 30°, 25° 20°, 15°, up to 150º with optional lens	posterior pole & wide-angle fundus images	Displays infrared, red-free, fundus autofluorescence, FA, ICGA images.	The MultiColor imaging capability simultaneously combines three laser wavelengths to produce high contrast MultiColor images highlighting structures at different depths within the retina. MultiColor imaging delivers detailed images even in difficult patients including those with cataracts or nystagmus. Without the need for dye, non-invasive BluePeak blue laser autofluorescence captures fundus autofluorescence (FAF) images, providing both structural & metabolic information about the retina.

RETINAL SCANNERS

COMPANY	MODEL	TYPE OF LASER	FIELD OF VIEW	AREA OF RETINA ANALYZED	PRINTOUT DETAIL	ADDITIONAL FEATURES
Heidelberg Engineering, Inc.	SPECTRALIS® FA+OCT	Confocal scanning laser ophthalmoscope	55°, 35°, 30°, 25°, 20°, 15°, up to 150º with optional lens	retinal layers, RNFL, posterior pole & wide angle fundus images	Displays infrared, red-free, fundus autofluorescence, FA, OCT, posterior pole & RNFL analysis.	The SPECTRALIS® FA+OCT is a unique ophthalmic diagnostic imaging & angiography device used primarily to examine the structures of the retina, macula, & optic nerve. It combines two technologies, confocal scanning laser ophthalmoscopy (cSLO) & spectral domain optical coherence tomography (SD-OCT).
Heidelberg Engineering, Inc.	SPECTRALIS® FA+OCT with MultiColor	Confocal scanning laser ophthalmoscope	55°, 35°, 30°, 25°, 20°, 15°; up to 150º with optional lens	retinal layers, RNFL, posterior pole & wide angle fundus images	Displays infrared, red-free, fundus autofluorescence, FA, OCT, posterior pole & RNFL analysis.	The MultiColor imaging capability simultaneously combines three laser wavelengths to produce high contrast MultiColor images highlighting structures at different depths within the retina. MultiColor imaging delivers detailed images even in difficult patients including those with cataracts or nystagmus.
Heidelberg Engineering, Inc.	SPECTRALIS® HRA + OCT	Confocal scanning laser ophthalmoscope	55°, 35°, 30°, 25°, 20°, 15°; up to 150º with optional lens	retinal layers, RNFL, posterior pole & wide-angle fundus images	Displays infrared, red-free, fundus autofluorescence, FA, ICGA, OCT, posterior pole & RNFL analysis.	The SPECTRALIS® HRA+OCT is a unique ophthalmic diagnostic imaging & angiography device used primarily to examine the structures of the retina, macula, & optic nerve. It combines two technologies, confocal scanning laser ophthalmoscopy (cSLO) and spectral domain optical coherence tomography (SD-OCT).
Heidelberg Engineering, Inc.	SPECTRALIS® HRA+OCT with MultiColor	Confocal scanning laser ophthalmoscope	55°, 35°, 30°, 25°, 20°, 15°; up to 150º with optional lens	retinal layers, RNFL, posterior pole & wide-angle fundus images	Displays infrared, red-free, fundus autofluorescence, FA, ICGA, OCT, posterior pole & RNFL analysis.	The MultiColor imaging capability simultaneously combines three laser wavelengths to produce high contrast MultiColor images highlighting structures at different depths within the retina. MultiColor imaging delivers detailed images even in difficult patients including those with cataracts or nystagmus.
i-Optics	EasyScan	macula & peripheral retina nasal & central, up to 60º angle	confocal scanning laser ophthalmoscope; infrared 785nm; green 532nm	inner & outer retinal layers, optic nerve head, macula	Fast, easy & affordable high resolution (SLO) retinal imaging. True zero-dilation from 2mm	Fast, easy and affordable high resolution (SLO) retinal imaging. True zero-dilation from 2 mm pupils, patient-friendly & time saving. Other benefits include early diagnosis of retinal conditions, better contrast than fundus pupils, patient friendly & time-saving. Other cameras & better penetration of media opacities such as cataract. Live viewing of the retina. Also very suitable for large volumes, telediagnosis and mobile practices. Weighs just under 7 lbs. & opens up high-end care to patients all over the world. www.i-optics.com/easyscan
Optos	Spectral OCT/SLO	830 nm super luminescent diode	variable up to 30º	fovea, retina, inner/outer retinal layers, RPE, posterior pole, optic nerve, RNFL; selected areas of retina with microperimetry	Combined hi-res OCT B-Scan & confocal SLO images with exact location/orientation; combined topography thickness report with 6 high resolution radial B-Scan; "Auto-compare" report of multiple topography maps (progression/regression) including location of retinal thickness changes overlaid on fundus image. Optic nerve head & RNFL longitudinal & change analysis; user selected "customized reports."	Anterior Segment Lens: high-resolution OCT imaging of cornea, iris & anterior chamber. Transitioning from posterior segment to anterior segement takes only seconds. Microperimetry: reproducible & accurate way to measure macular sensitivity around central fixation. With the SLO retinal tracking, the placement of the stimuli points is automated & repeatable at the same location on the retina between visits & allows mapping of the fixation location & stability during the test.
Optos	P200®	scanning laser technology; low-powered red (633 nm) and green (532 nm) lasers	200°	central pole & periphery, up to 200° internal scan, 82% of the retina with standard gaze, more with eye steering	Image enhancements, such as magnifier; individual laser separations, image annotations & gray scale detail views; ResMax® mode for enhanced central pole detail; 3DWrap® patient education tool.	The P200 was the first device that created ultra-widefield retinal imaging. Providing both ultra-widefield & central pole retinal imaging, the P200 has become a standard of care in many practices. It is Optos' most widely used device for practitioners focusing primarily on a healthy patient base. The P200 is a practice differentiator & offers a strong value proposition.
Optos	200Dx	scanning laser technology low-powered red (633 nm) & green (532 nm) lasers	200°	central pole & periphery, up to 200º internal scan, 82% of the retina with standard gaze, more with eye steering	Image enhancements such as magnifier; individual laser separations, image annotations & gray scale detail views; ResMax® mode for enhanced central pole detail; 3DWrap® patient education tool.	The 200Dx offers ultra-widefield & central pole retinal imaging with enhanced image quality as well as a redesigned, easy-to-use patient interface & innovative viewing techniques such as the magnifier tool. Images are captured in less than a second, through 2mm pupils and many cataracts. The device is patient friendly, easy to operate & suitable for the majority of patients.
Optos	Daytona	scanning laser technology low-powered red (633 nm) & green (532 nm) lasers	200°	central pole & periphery, up to 200° internal scan, 82% of the retina with standard gaze	Image enhancements such as magnifier; individual laser separations, image annotations & gray scale detail views; 3DWrap® patient education tool.	Daytona is designed as a desktop model with key features similar to Optos' earlier imaging devices. It offers ultra-widefield, ultra-high resolution digital retinal imaging, covering 82% or up to 200° of the retina in one single capture. Images are captured in less than a second, through 2 mm pupils & many cataracts. With advanced features such as ultra-widefield autofluorescence imaging with green laser light, Daytona meets the need for more exacting clinical imaging & analysis capabilities.
Optos	P200C	scanning laser technology; low-powered red (633 nm) and green (532 nm) lasers	200°	central pole & periphery; up to 200° internal scan, up to 82% of the retina with standard gaze, more with eye steering	Image enhancements such as magnifier; individual laser separations, image annotations & gray scale detail views; ResMax® mode for enhanced central pole detail, 3DWrap® patient education tool.	The P200C offers ultra-widefield & widefield imaging for a detailed exam of the periphery as well as the central pole. Images are captured in less than a second, through 2mm pupils & many cataracts. With high resolution images (14 µm) & features like Guided Eye Steering (images beyond 200°) & ResMax® central pole resolution enhancement (11 µm), the P200C supports the detection, diagnosis, analysis, documentation & management of ocular pathology & systemic disease.
Optos	200Tx	scanning laser technology low-powered red (633 nm), green (532 nm) & blue (488) lasers technology; low-powered red (633 nm), green (532 nm) and blue (488 nm) lasers	200°	central pole & periphery; up to 200° internal scan, 82% of the retina with standard gaze, more with eye steering up to 200° internal scan; up to 82% of the retina with standard gaze and even more with eye steering	Image enhancements such as magnifier; individual laser separations, image annotations & gray scale detail views; ResMax® mode for enhanced central pole detail; 3DWrap® patient education tool magnified; individual laser separations; image annotations & gray scale detail views, ResMax mode for enhanced central pole detail, as well as 3D Wrap patient orientation tool for enhanced patient education	The 200Tx offers ultra-high resolution (14µm) ultra-widefield digital retinal images in one capture for a detailed exam of the central pole as well as the periphery. Images are captured in less than a second, through 2mm pupils & many cataracts. Multi-wavelength imaging offers options for color, red-free, auto-fluorescence & fluorescein angiograpy. Guided eye steering provides images beyond 200º, ResMax for central pole resolution enhancement (11µm). Discover more evidence of disease and guide treatment decisions enables image magnification; contrast, brightness and gamma adjustment; annnotation, notes; individual laser separation views; 200Tx produces optomap® ultra-widefield digital retinal imaging procedures to support screening and wellness examinations (20 microns) and optomap® plus medical retinal imaging (14 microns, ResMax = 11 microns) with enhanced features supporting medically necessary reimbursable procedures, as well as the optomap® *fa* ultra-widefield angiography procedure and optomap® *af* ultra-widefield autofluorescence imaging to support treatment planning.
Optovue, Inc.	RTVue Premier	840 nm superluminescent diode	46° on 14 mm line scan	Pachymetry map, angle measurement, Ganglion Cell Complex (GCC®), RNFL, full retina, inner retina, outer retina, optic nerve head, macula, anterior & posterior pole	Stunning, high-resolution B-scans from line and cross line scans with ability to adjust scan lengths and angles. Retinal thickness mapping segmentinginner, outer and full retina normative database reference coloring. Enhancedgrid scan. Volumetric analysis. OCT fundus image with overlayed color-coded thickness map and ETDRS thickness values. Optic disc scan provides discparameters, RNFL thickness mapping, as well as symmetry, change and TSNIT analysis. with normative database reference coloring. Patented Ganglion Cell Complex (GCC®) analysis including normative database3D macula and 3D optic disc reference coloring. scans provide for 3Dvisualization, volume rendering, and en face imaging. Full 6mm diameter-pachymetry mapping, color coded with minimum thickness marker, as well as user-defined corneal point thickness. Angle visualization withmeasurement. 3D Cornea.	Optovue exclusively offers the Ganglion Cell Complex (GCC®) Analysis for greater confidence in retina and glaucoma assessment. Visit-to-visit registration and rotational correction achieved with Vessel Tracing. Optic nerve head scan calculates center of the disc for automatic placement of TSNIT. 3D Cube line-by-line comparison. Change analysis on up to four maps for glaucoma and retina. Server and office networking forreal-time viewing and manipulation of patient data. EMR integration facilitated via networking application.
Optovue, Inc.	iVue	840 nm superluminescent diode	7 x 7 en face	RNFL, full retina, inner retina, outer retina, optic nerve head, macula, posterior pole, anterior segment, pachymetry map, angle measurement.	Stunning, high-resolution B-scans from a 7-line Raster & color-coded retinal thickness mapping with normative comparison. Optic disc scan provides RNFL thickness mapping as well as TSNIT, OU & Change Analysis with normative comparison. Upgradeable 3D macula & 3D disc scans capture 67 million data points & provides En Face Analysis. Upgradeable Ganglion Cell Complex thickness map with normative comparison. Full 6mm diameter Pachymetry Mapping, color-coded with minimum thickness marker. Angle visualization & measurement. pachymetry mapping, color-coded with	iVue is the smallest, most compact spectral-domain OCT in the world. Designed to be very easy and fast, it also includes a convenient footswitch control and LCD touch-screen on the scanner head. iTravel is a rolling case, especially designed to transport iVue safely and with ease. Small footprint with option for corner placement. Optic nerve head scan calculates center of the disc for automatic placement of TSNIT. One-button auto adjustment. Standard package includes anterior and posterior imaging. iWellness Exam is a pay-per-visit program available on iVue. iWellness scan pattern includes 7x7mm Retinal Thickness Mapping with 7-line rasterpresenting high-resolution B-scans. Also included is 6x6 mm Ganglion Cell Complex Thickness Map to aid in glaucoma detection as well as asymmetry analysis. EMR integration facilitated via networking application. minimum thickness marker as well as user-defined corneal point thickness. Angle visualization with measurement.
Topcon Medical Systems	3D OCT-2000	840 nm superluminescent diode	45°	Over 500 scan options available; macula and retinal layers; RNFL; RPE; ILM; IS/OS; Bruch's membrane; optic nerve head and disc analysis	RNFL trend analysis, optic nerve head analysis & trending; retinal thickness map; 3D; B scan; compare; fundus image; retinal layer segmentation	Only SD-OCT with an integrated non-mydriatic retinal camera. Automatic EDT reference setting; True 3-D view of the retina, featuring Topcon's TrueMap™ software. Pin-point Registration™ allows doctor to map exact location of the OCT image with the the fundus image. Comes with Synergy, Topcon's ophthalmic data management system, pre-loaded on it.

RETINAL ACUITY METER

COMPANY	MODEL	DESIGN	ILLUMINATION	OPTICS	CALIBRATION	COMPONENTS	SPECIAL FEATURES
AMA Optics, Inc.	Retinal Acuity Meter-RAM	handheld, stand alone	high illumination	CCFT	Automatic Convergent light	Meter, Carrier Frames Pinhole Clip, Occluder	The RAM uses bright, calibrated illumination, exact distance & 1-mm pinhole apertures to accurately measure retinal acuity; assesses macular function & forecasts postoperative vision. Prevents unnecessary surgeries & reduces unexpected poor outcomes. Reproducible & easy.

BRIGHTNESS ACUITY TESTING

COMPANY	MODEL	DESIGN	ILLUMINATION	OPTICS	CALIBRATION	GLARE STIMULUS	ADDITIONAL INFORMATION
AMA Optics, Inc.	Brightness Acuity Meter-BAM	handheld, stand alone	high, medium, low intensity settings	1 watt LED Luxeon™ bulb	Automatic	constant & adjustable strobe	The BAM utilizes calibrated glare to quantify the degree of vision loss due to cataract. Occluding the BAM glare bowl allows for macular photo stress testing, a component to identify diseases of the macula.
MARCO	BAT: Brightness Acuity Tester	handheld	LED	n/a	Factory calibrated	LED source	Measures glare without leaving refracting lane; three variable light intensity settings simulate glare conditions; evaluates tinted lenses, sunglasses and anti-reflectives to quantify improvement in glare disorders; macular photo stress testing.

TONOMETERS & BLOOD FLOW ANALYZERS

COMPANY	MODEL	TYPE	MEASUREMENT RANGE	ALIGNMENT	PORTABILITY/WEIGHT	OPTIONS	SPECIAL FEATURES
Accutome	Accupen Handheld Tonometer	contact, applanation	5 to 60 mmHg	manual	handheld, portable 3.0 oz	n/a	Ergonomic design with gravity offset technology, providing accurate IOP measurements and no calibration. Long-lasting battery - 15,000 measurements.
AIT Industries (Manufactured by Viewlight)	RU-100	applanation	0 to 80 mmHg	manual	slit lamp mounted 1 lb.	n/a	Fits on tower style slit lamps
AIT Industries (Manufactured by Viewlight)	TU-100	applanation	0 to 80 mmHg	manual	slit lamp mounted 1 lb.	n/a	Fits on compact style slit lamps
AIT Industries (manufactured by Tomey)	FT-1000	noncontact	0 to 60 mmHg	automatic	45 lbs.	n/a	High speed measurement - up to 3 air pulses at 0.1 seconds each; touch screen alignment, 15ms measure-ment response time, quick charge for faster consecutive measurements
Canon Healthcare Solutions Division	TX-20 Full Auto Tonometer	noncontact	0 to 60 mmHg	full auto/auto/ manual	approx 33 lbs	chin rest paper, printing paper	One-touch full auto operation for IOP measurement to each eye, 3D auto alignment,high IOP warning, visual reliability and indicators, soft air puff, external fixation, USB input, LAN and RS-232C output, 5.7-inch tiltable multi-functional color LCD monitor, motorized omni-directional joystick, built-in printer, compact & lightweight
Gulden Ophthalmics	Schiotz	contact	0 to 127.5 mmHg	manual	0.5 lbs.		Very portable; lightweight; great for emergency use; inexpensive; durable.
Haag-Streit USA	Goldmann Applanation Tonometer AT 870	applanation	0 to 80 mmHg	manual	slit lamp mounted		
Haag-Streit USA	Goldmann Applanation Tonometer AT 900	applanation	0 to 80 mmHg	manual	slit lamp mounted		
Haag-Streit USA	Perkins Mk2 Handheld Applanation Tonometer	applanation	n/a	manual	handheld		The Perkins combines proven technology with the flexibility of a hand held instrument. Precision counter-balanced movements allow reading to be taken with the patient in any position. The Perkins is designed specifically for post-operative, bed-ridden patients difficult to examine by traditional methods.
Icare USA	Icare TA0i tonometer	rebound	7 to 50 mmHg	manual	8.8 oz (250 g)		Easy to use, handheld rebond tonometer for accurate & patient-friendly IOP measuring without anesthesia. Battery operated (universal AA batteries), requires no calibration. 2-year warranty, carrying case & 100 probes included.
Keeler Instruments	KAT - Keeler Applanation Tonometer R type	applanation	0 to 80 mmHg	manual	slit lamp mounted/ .69 kg	Mountable to the post fitted to the top of the optical body. Carrying case optional.	Keeler designed and manufactured along with disposable prisms. Fits most tower-type slit lamps.
Keeler Instruments	KAT - Keeler Applanation Tonometer T type	applanation	0 to 80 mmHg	manual	slit lamp mounted/ .41 kg	Fitted to the guide plate on the optical axis for the micro-scope and illumination arm.	Keeler designed and manufactured along with disposable prisms. Fits most tower-type slit lamps.
Keeler Instruments	Pulsair Desktop Tonometer	noncontact	5 to 50 mmHg	manual	desktop/smallest footprint/35 lbs.	smallest footprint/smallest priced	No consumables (LED illumination); smallest footprint; easy-to-use; soft puff technology & built-in printer
Keeler Instruments	Pulsair IntelliPuff Tonometer	noncontact	5 to 50 mmHg	manual	handheld/portable 1.96 lb handpiece	wall mountable or desktop	No consumables (LED illumination); smallest footprint; easy-to-use; soft puff technology & built-in printer
Kowa Optimed Inc.	KT-800 Noncontact Tonometer	noncontact	0 to 60 mmHg	3D automatic alignment	tabletop/instrument stand 39.6 lbs.	optional 3x long eye relief for presbyopic users	3-D auto alignment function; soft airflow, no measurement range switching; eyelid obstruction monitor; electronically operated chin rest; built-in video camera & TFT color 5.6 monitor for ease of use.
Kowa Optimed Inc.	HA-2	applanation	0 to 60 mmHg	manual	handheld/battery operated 0.53 lbs.	optional 3x long eye relief for presbyopic users	
Marco	M3	noncontact	0 to 60 mmHg	manual or automatic	desktop unit automatic (55 lbs.)		Softer air puff; measures pupil size & corneal size; autorefractor/keratometer, adjustable monitor; motorized chin rest; high speed measurements; interfaces w/EPIC, TRS & Evolution.
Marco	NT-510	noncontact	0 to 60 mmHg	manual or automatic	desktop unit (42 lbs.)	printer, rechargeable battery comes std.	Advanced soft-air pulse control; automatic safety lock.
OCULUS Inc.	Corvis® STL	non-contact tonometer/ pachymeter	6-60 mmHg	automatic-height adjustment, automatic release	Approx. 13.2 lbs.	n/a	High-speed camera that captures more than 4000 images per second. Based on the deformation video, the IOP & corneal thickness can be measured very precisely (independent on decentered apex and insufficient tear-film). The video of the whole deformation is also displayed on the touch-screen.
Paradigm Medical Industries	Ocular Blood Flow Analyzer (BFA)	applanation	IOP measurement: 6 high: no upper limit	manual	portable; console: 12 lbs. workstation: 23 lbs.	printer; slit-lamp adaptability	Identify POAG & NT; identify glaucoma suspects w/low pulsatile ocular blood flow (POBF); identify central retinal vein occlusions; monitor & quantify the effect of glaucoma treatment plans; measure IOPs & POBF by volume; monitor & manage current systemic drug therapy.
Reichert Technologies	CT100 Applanation Tonometer	applanation	0 to 80 mmHg	manual	slit lamp mounted		Fits most tower-type slit lamps.
Reichert Technologies	CT210 Applanation Tonometer	applanation	0 to 80 mmHg	manual	slit lamp mounted		Fits most compact-type slit lamps.
Reichert Technologies	Model 30™ Pneumatonometer	contact applanation	5 to 80 mmHg	manual	12 lbs.	tonography	An easy-to-use instrument providing fast accurate tonometry & opt. tonography functions. The system measures IOP in the range of 5 to 80 mm Hg. Forty readings per second are recorded & charted, including ocular pulse. The chart recorder produces a permanent printout of the desired test for patient files.
Reichert Technologies	PT100 Portable NCT	noncontact	0 to 60 mmHg	manual	handheld/portable; 2.7 lbs.	wireless IR printer; carrying case; re-chargeable battery; charging base	Cordless, wireless data transmission; patient eye illumination; demo puff; icon-based operating system; macroview of eye.
Reichert Technologies	Tono-Pen® AVIA	contact applanation	5 to 55 mmHg	manual	handheld, portable 2.4 oz	n/a	Portable, light & user-friendly. Provides fast measurements, strongly correlated w/Goldmann tonometry. Long battery life, w/no need for calibration. Ergonomic design provides maximum comfort & ease of use & large LCD screen display readings on both sides of instrument.
Reichert Technologies	Tono-Pen® XL	contact applanation	5 to 80 mmHg	manual	2.25 oz.		An easy-to-use portable, handheld instrument providing fast & accurate intraocular pressure readings w/accuracy comparable to the Goldmann tonometer. Harvesting data at a rate of 500 samples per second, the Tono-Pen gently contacts the cornea & displays the average of four independent readings, along w/a statistical coefficient.
Reichert Technologies	Reichert® 7 Auto Non-Contact Tonometer	noncontact	7 to 60 mmHg	automatic	tabletop/instrument stand 30 lbs.	internal printer	Easy-to-use touch-screen interface. Softest puff in the industry, full auto-alignment and 1-touch operation. Correlates strongly with Goldmann Tonometry.
Reichert Technologies	Reichert® 7CR Auto Non-Contact Tonometer + Corneal Response Technology	noncontact	7 to 60 mmHg	automatic	tabletop/instrument stand 30 lbs.		Patented corneal response technology compensates for the biomechanical properties of the cornea, providing IOPcc, a measure of intraocular pressure that is less influenced by corneal properties than other tonometers.
Topcon Medical Systems	CT-80	noncontact	0 to 60 mmHg	manual/ automatic	about 18 kg or 39.7 lbs.	optional adjustable instrument table	Built-in video camera & monitor; auto measurement, digital display & built-in printer; triple safety function; dual sensor system & 30% faster interval time.
Woodlyn Inc.	#44000 R900	applanation/Goldmann	0 to 80 mmHg	manual	mounts to slit lamp; 1.33 lbs.		
Ziemer Ophthalmic Systems	PASCAL Dynamic Contour Tonometer – wireless	Dynamic Contour Tonometer	1 to 200 mmHg	manual	slit lamp-mounted; 1 lb.	wireless printer; carrying case; rechargeable batteries	Provides highly accurate IOP; Ocular Pulse Amplitude & Quality score; IOP not affected by corneal biomechanical properties; validated in in-vivo clinical trials; easy to use; digital display with option of using wireless printer; EMR ready

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